Barb O'Bryen

61881

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SEARCH REQUEST FORM

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Please search
1. any compound of claim 1
2. " " " 2 as best possible
3 use of 1 + 2 6,7 modulate, grow hair, treat alopecia

Thanks
Rebecca

Point of Contact:
Barb O'Bryen
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STIC CM1 6A05 308-4291

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PCT/JP01/02756 3/31/01

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Date completed:	3-18-02	**Search Site**		**Vendors**	
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PTO-1590 (9-90)

USCOMM-DC 90-3952

U.S. GPO: 1995-398-798/22483

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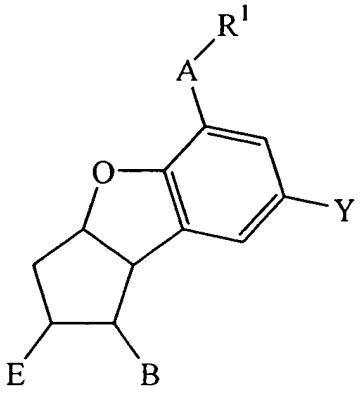
CLAIMS

1. An agent for modulating growth or generation of hair comprising a prostaglandin EP4 ligand as an active ingredient.

2. The agent for modulating growth or generation of hair according to claim 1, wherein the said prostaglandin EP4 receptor ligand is a 5,6,7-trinor-4,8-inter-m-phenylene PGI_2 derivative of the following Formula (I) or a pharmacologically acceptable salt thereof:

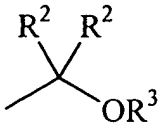


(I)

[wherein

R^1 is

(i)



wherein R^2 is hydrogen, C_1-C_4 linear alkyl, C_3 or C_4 branched alkyl, trifluoromethyl, -C(=O)-R^4, or -C(=O)-O-R^4, wherein R^4 is C_1-C_{12} linear alkyl, C_3-C_{14} branched alkyl, C_3-C_{12} cycloalkyl, C_7-C_{12} aralkyl, phenyl or substituted phenyl (wherein the substituent is at least one fluorine, chlorine, bromine, iodine, trifluoromethyl, C_1-C_4 alkyl, nitro, cyano, methoxy, phenyl, phenoxy, p-acetamidebenzamide, -CH=N-NH-C(=O)-NH_2, -NH-C(=O)-Ph, -NH-C(=O)-CH_3 or -NH-C(=O)-NH_2), and the two R^2s may be the same or different; R^3 is hydrogen, C_1-C_4 alkyl, C_1-C_{12} acyl, C_7-C_{16} aroyl, C_7-C_{16} aralkyl, tetrahydropyranyl,

tetrahydrofuranyl, 1-ethoxyethyl, allyl, tert-butyl or tert-butyldimethylsilyl,

(ii) $-COOR^5$

wherein R^5 is

(1) hydrogen or pharmacologically acceptable cation,

(2) C_1-C_{12} linear alkyl or C_3-C_{14} branched alkyl,

(3) $-Z-R^6$

wherein Z is a valence bond, or linear or branched alkylene represented by the formula C_tH_{2t} wherein t represents an integer of 1 to 6, R^6 is C_3-C_{12} cycloalkyl, or C_3-C_{12} cycloalkyl substituted with 1 to 4 R^7s wherein R^7 is hydrogen or C_1-C_5 alkyl,

(4) $-(CH_2CH_2O)_nCH_3$

wherein n represents an integer of 1 to 5,

(5) -Z-Ar

wherein Z is defined as the same as the above, Ar is phenyl, α-naphthyl, β-naphthyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, α-furyl, β-furyl, α-thienyl, β-thienyl or substituted phenyl (wherein the substituent is the same as the substituent defined for the substituted phenyl mentioned above),

(6) $-C_tH_{2t}COOR^8$

wherein t is defined as the same as the above, R^8 is hydrogen or C_1-C_5 alkyl,

(7) $-C_tH_{2t}N(R^9)_2$

wherein t is defined as the same as above, R^9 is hydrogen or C_1-C_5 alkyl, and the two R^9s may be the same or different,

(8) $-CH(R^{10})-C(=O)-R^{11}$

wherein R^{10} is hydrogen or benzoyl, R^{11} is phenyl, p-bromophenyl, p-chlorophenyl, p-biphenyl, p-nitrophenyl, p-benzamidephenyl or 2-naphthyl,

(9) $-C_pH_{2p}-W-R^{12}$

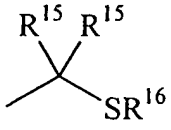
wherein p represents an integer of 1 to 5, W is -CH=CH-, $-CH=C(R^{13})-$ or $-C\equiv C-$ wherein R^{13} is C_1-C_{30} linear alkyl, C_3-C_{30} branched alkyl or C_7-C_{30} aralkyl,

R^{12} is hydrogen, C_1-C_{30} linear alkyl, C_3-C_{30} branched alkyl or C_7-C_{30} aralkyl, or

(10) $-CH(CH_2OR^{14})_2$

wherein R^{14} is C_1-C_{30} alkyl or C_1-C_{30} acyl, and the two R^{14}s may be the same or different,

(iii)



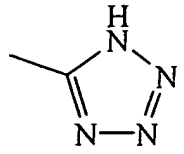
wherein R^{15} represents is hydrogen, C_1-C_4 linear alkyl, C_3 or C_4 branched alkyl, trifluoromethyl, $-C(=O)-R^{17}$ or $-C(=O)-O-R^{17}$ wherein R^{17} is C_1-C_{12} linear alkyl, C_3-C_{14} branched alkyl, C_3-C_{12} cycloalkyl, C_7-C_{12} aralkyl, phenyl or substituted phenyl (wherein the substituent is the same as the substituent defined for the substituted phenyl mentioned above), and the two R^{15}s may be the same or different; R^{16} is hydrogen, C_1-C_{12} linear alkyl, C_3-C_{14} branched alkyl, phenyl or substituted phenyl (wherein the substituent is the same as the substituent defined for the substituted phenyl mentioned above), or

$-C(=O)-R^{18}$ wherein R^{18} represents C_1-C_{12} linear alkyl, C_3-C_{14} branched alkyl, C_3-C_{12} cycloalkyl, C_7-C_{12} aralkyl, phenyl or substituted phenyl (wherein the substituent is the same as the substituent defined for the substituted phenyl mentioned above),

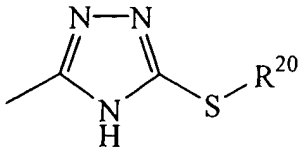
(iv) $-CH_2-R^{19}$

wherein R^{19} is

(1)

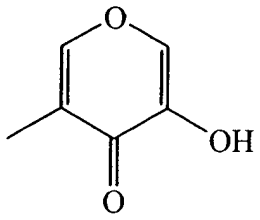


(2)

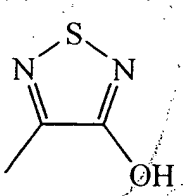


wherein R^{20} represents hydrogen, C_1-C_{12} linear alkyl, C_3-C_{14} branched alkyl, phenyl, substituted phenyl (wherein the substituent is the same as the substituent defined for the substituted phenyl mentioned above), or -C(=O)-R^{21} wherein R^{21} is C_1-C_{12} linear alkyl, C_3-C_{14} branched alkyl, C_3-C_{12} cycloalkyl, C_7-C_{12} aralkyl, phenyl, or substituted phenyl (wherein the substituent is the same as the substituent defined for the substituted phenyl mentioned above),

(3)



(4)



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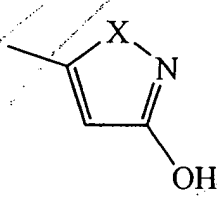


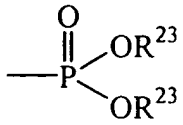
wherein X represents -O- or -S-, or

(6) azide,

(v) -C(R^{22})$_3$

wherein R^{22} represents hydrogen, fluorine, chlorine, bromine, iodine, cyano or C_1-C_4 alkyl, and all of the R^{22}s may be the same or different,

(vi)



wherein R^{23} represents hydrogen, C_1-C_4 alkyl, phenyl, substituted phenyl (wherein the substituent is the same as the substituent defined for the substituted phenyl mentioned above), $-CH_2-OR^{24}$ (wherein R^{24} is C_1-C_{12} linear alkyl, C_3-C_{14} branched alkyl, C_3-C_{12} cycloalkyl, C_7-C_{12} aralkyl, phenyl, or substituted phenyl (wherein the substituent is the same as the substituent defined for the substituted phenyl mentioned above), or pharmacologically acceptable cation, and the two R^{23}s may be the same or different,

(vii) $-N(R^{25})_2$

wherein R^{25} is hydrogen, C_1-C_{12} linear alkyl, C_3-C_{14} branched alkyl, C_3-C_{12} cycloalkyl, C_4-C_{13} cycloalkylalkyl, C_7-C_{12} aralkyl, $-C(=O)-R^{26}$,$-C(=O)-O-R^{26}$, $-SO_2-R^{26}$, phenyl or substituted phenyl (wherein the substituent is the same as the substituent defined for the substituted phenyl mentioned above), R^{26} is C_1-C_{12} linear alkyl, C_3-C_{14} branched alkyl, C_3-C_{12} cycloalkyl, C_7-C_{12} aralkyl, phenyl or substituted phenyl (wherein the substituent is the same as the substituent defined for the substituted phenyl mentioned above), the two R^{25}s may be the same or different (when one of the R^{25}s is $-SO_2-R^{26}$, the other R^{25} is not $-SO_2-R^{26}$),

(viii) $-(C(=O)CH_2)_k-H$

wherein k is an integer of 1 or 2, or

(ix) $-C(=O)-N(R^{27})_2$

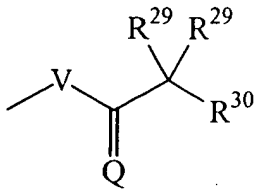
wherein R^{27} is hydrogen, C_1-C_{12} alkyl, C_3-C_{12} cycloalkyl, phenyl, substituted phenyl (wherein the substituent is the same as the substituent defined for the substituted phenyl mentioned above), C_4-C_{13} cycloalkylalkyl, C_7-C_{12} aralkyl, cyano or $-SO_2-R^{28}$ wherein R^{28} is C_1-C_{12} alkyl, C_3-C_{12} cycloalkyl, phenyl, substituted phenyl (wherein the substituent is the same as the substituent defined for the substituted phenyl mentioned above), C_4-C_{13} cycloalkylalkyl, or C_7-C_{12} aralkyl, and the two R^{27}s may

be the same or different (when one of the R^{27}s is $-SO_2-R^{28}$, the other R^{27} is not $-SO_2-R^{28}$);

Y is hydrogen, C_1-C_4 alkyl, fluorine, chlorine, bromine, formyl, methoxy or nitro;

B is

(i)



wherein V is

(1) $-CH_2CH_2-$,

(2) $-C\equiv C-$,

or

(3) $-CH=C(R^{31})-$

wherein R^{31} is hydrogen, C_1-C_5 alkyl, fluorine, chlorine, bromine or iodine,

Q is

(1) =O

(2)

$\begin{matrix} -R^{32} \\ =OR^{33} \end{matrix}$

or

(3)

$\begin{matrix} -R^{32} \\ -R^{32} \end{matrix}$

wherein R^{32} is hydrogen, C_1-C_4 linear alkyl, C_3 or C_4 branched alkyl, trifluoromethyl, $-C(=O)-R^{34}$, or $-C(=O)-O-R^{34}$ wherein R^{34} represents C_1-C_{12} linear alkyl, C_3-C_{14} branched alkyl, C_3-C_{12} cycloalkyl, C_7-C_{12} aralkyl, phenyl or substituted phenyl (wherein the substituent is the same as the substituent defined for the substituted phenyl mentioned above); R^{33} is hydrogen, C_1-C_4 alkyl, C_1-C_{12} acyl, C_7-C_{16} aroyl, C_7-C_{16} aralkyl, tetrahydropyranyl, tetrahydrofuranyl, 1-ethoxyethyl, allyl, tert-butyl

or tert-butyldimethylsilyl, and the two R^{32}s may be the same or different; R^{29} is hydrogen, fluorine, chlorine, bromine, iodine, cyano or C_1-C_4 alkyl, and the two R^{29}s may be the same or different;

R^{30} is

(1) $-Z-R^{35}$

wherein Z is defined as the same as the above, R^{35} is C_1-C_{12} linear alkyl, C_3-C_{14} branched alkyl, C_3-C_{12} cycloalkyl, C_4-C_{13} cycloalkylalkyl, C_3-C_{12} cycloalkyl substituted with 1 to 4 R^{36}s (wherein R^{36} is hydrogen or C_1-C_5 alkyl), C_4-C_{13} cycloalkylalkyl substituted with 1 to 3 R^{36}s (wherein R^{36} is defined as the same as the above), phenyl, substituted phenyl (wherein the substituent is the same as the substituent defined for the substituted phenyl mentioned above), α-naphthyl, β-naphthyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, α-furyl, β-furyl, α-thienyl or β-thienyl,

(2) $-Z-O-R^{35}$

wherein Z and R^{35} are defined as the same as the above,

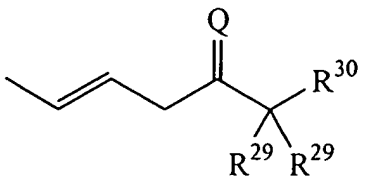
(3) $-Z-CH=C(R^{35})_2$

wherein Z and R^{35} are defined as the same as the above, and the two R^{35}s may be the same or different, or

(4) $-Z-C\equiv C-R^{35}$

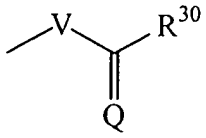
wherein Z and R^{35} are defined as the same as the above,

(ii)



wherein Q, R^{29} and R^{30} are defined as the same as the above, and the two R^{29}s may be the same or different, or

(iii)

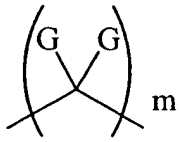


wherein V, Q and R^{30} are defined as the same as the above;

E represents hydrogen or $-OR^{33}$ wherein R^{33} is defined as the same as the above;

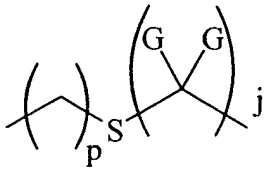
A is

(i)



wherein m represents an integer of 0 to 5, G represents hydrogen, fluorine, chlorine, bromine, iodine, trifuluoromethyl, C_1-C_4 linear alkyl or C_3-C_6 branched alkyl, and all Gs may be the same or different,

(ii)



wherein j represents an integer of 1 to 4, p represents an integer of 0 or 1, G is defined as the same as the above, and all Gs may be the same or different,

(iii) $-CH=CH-CH_2-$,

(iv) $-CH_2-CH=CH-$,

(v) $-CH_2-O-CH_2-$,

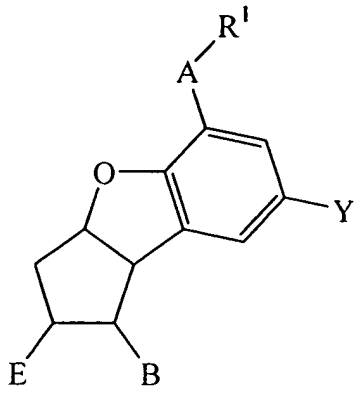
(vi) $-O-CH_2-$,

(vii) $-C\equiv C-$, or

(viii) -C=C- (trans)]

3. The agent for modulating ~~modulating~~ growth or generation of hair according to claim 2, wherein the said 5,6,7-trinor-4,8-inter-m-phenylene PGI2 derivative is

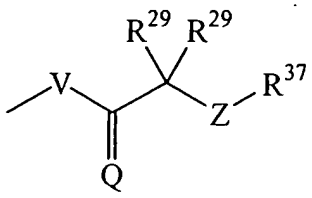
represented by the following Formula (I):



(I)

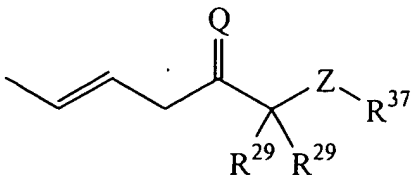
[wherein R^1, Y, E and A represent the following in the definition of claim 2, B is

(i)



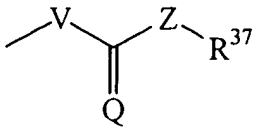
wherein V, Q, R^{29} and Z represent the following in the definition of claim 2, the two R^{29}s may be the same or different, R^{37} is C_3-C_{12} cycloalkyl, C_4-C_{13} cycloalkylalkyl, C_3-C_{12} cycloalkyl substituted with 1 to 4 R^{38}s (wherein R^{38} is hydrogen or C_1-C_5 alkyl), C_4-C_{13} cycloalkylalkyl substituted with 1 to 3 R^{38}s (wherein R^{38} is defined as the same as the above), phenyl, substituted phenyl (wherein the substituent is the same as the substituent defined for the substituted phenyl in claim 2), α-naphthyl, β-naphthyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, α-furyl, β-furyl, α-thienyl or β-thienyl,

(ii)



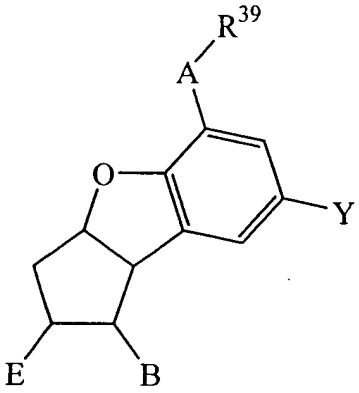
wherein Q, R^{29}, Z and R^{37} are defined as the same as the above, and the two R^{29}s may be the same or different, or

(iii)



wherein V, Q, Z and R^{37} are defined as the same as the above].

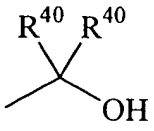
4. The agent for modulating growth or generation of hair according to claim 3, wherein the said 5,6,7-trinor-4,8-inter-m-phenylene PGI2 derivative is represented by the following Formula (II):



(II)

[wherein R^{39} is

(i)

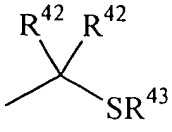


wherein R^{40} is hydrogen, C_1-C_4 linear alkyl or trifluoromethyl, the two R^{40} may be the same or different,

(ii) $-COOR^{41}$

wherein R^{41} is hydrogen, a pharmacologically acceptable cation or C_1-C_{12} linear alkyl,

(iii)



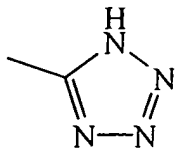
wherein R^{42} is hydrogen, C_1-C_4 linear alkyl or trifluoromethyl, the two R^{42}s may be the same or different, R^{43} is hydrogen, C_1-C_4 linear alkyl, phenyl, or $-C(=O)-R^{44}$

wherein R^{44} represents C_1-C_4 linear alkyl,

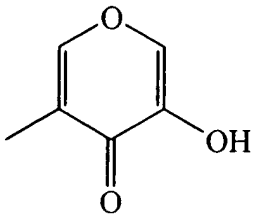
(iv) $-CH_2-R^{45}$

wherein R^{45} is

(1)

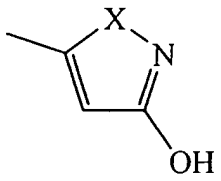


(2)



or

(3)

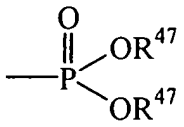


wherein X represents the following in the definition of claim 2,

(v) $-C(R^{46})_3$

wherein R^{46} represents hydrogen, fluorine, cyano or C_1-C_4 alkyl, and all R^{46}s may be the same or different,

(vi)



wherein R^{47} represents hydrogen, C_1-C_4 alkyl, or a pharmacologically acceptable cation, and the two R^{47}s may be the same or different, or

(vii) $-N(R^{48})_2$

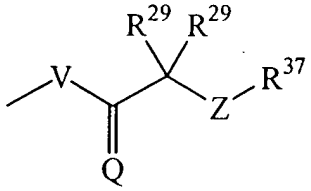
wherein R^{48} is hydrogen, $-C(=O)-R^{49}$ or $-SO_2-R^{49}$ wherein R^{49} is C_1-C_4 linear alkyl or phenyl, and the two R^{48}s may be the same or different (when one of R^{48}s is $-SO_2-$

R^{49}, the other R^{48} is not $-SO_2-R^{49}$),

Y is hydrogen, fluorine, chlorine or bromine,

B is

(i)



wherein V is

(1) $-CH_2CH_2-$,

(2) $-C\equiv C-$,

or

(3) -CH=CH-,

Q is

(1) =O,

(2)

$=R^{50}$
$=OR^{33}$

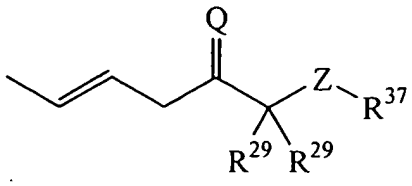
or

(3)

$=R^{50}$
$=R^{50}$

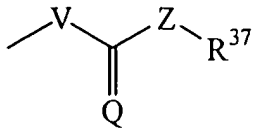
wherein R^{50} is hydrogen, C_1-C_4 linear alkyl, C_3 or C_4 branched alkyl, or trifluoromethyl, R^{33} represents the following in the definition of claim 2, the two R^{50}s may be the same or different, R^{29} represents the following in the definition of claim 2, and the two R^{29}s may be the same or different, Z represents the following in the definition of claim 2, and R^{37} represents the following in the definition of claim 3,

(ii)



wherein Q, R^{29}, Z and R^{37} are defined as the same as the above, and the two R^{29}s may be the same or different, or

(iii)

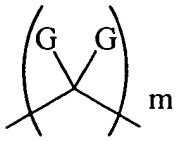


wherein V, Q, Z and R^{37} are defined as the same as the above,

E represents the following in the definition of claim 2,

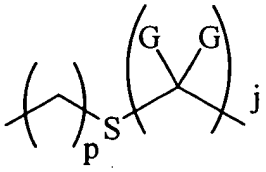
A is

(i)



wherein m represents an integer of 0 to 3, G is hydrogen, fluorine, chlorine, bromine, iodine, trifluoromethyl or C_1-C_4 linear alkyl, and all Gs may be the same or different,

(ii)



wherein j represents an integer of 1 or 2, p represents the following in the definition of claim 2, G is defined as the same as the above, and all Gs may be the same or different,

(iii) $-CH=CH-CH_2-$,

(iv) $-CH_2-CH=CH-$,

(v) $-CH_2-O-CH_2-$,

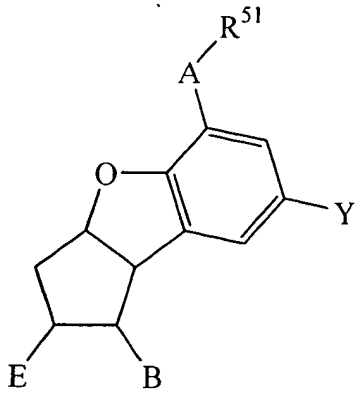
(vi) $-O-CH_2-$,

(vii) $-C\equiv C-$

or

(viii) -C=C- (trans)].

5. The agent for modulating growth or generation of hair according to claim 4, wherein the said 5,6,7-trinor-4,8-inter-m-phenylene PGI2 derivative is represented by the following Formula (III):



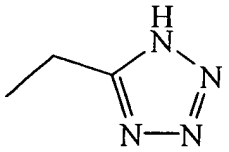
(III)

[wherein R^{51} is

(i) $-COOR^{52}$

wherein R^{52} is hydrogen, a pharmacologically acceptable cation or methyl, or

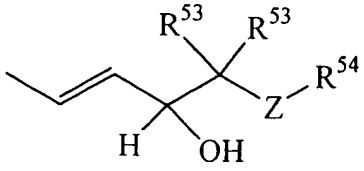
(ii)



wherein Y is hydrogen or fluorine,

B is

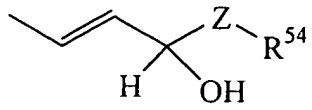
(i)



wherein R^{53} is hydrogen, fluorine or C_1-C_4 alkyl, the two R^{53}s may be the same or different, Z represents the following in the definition of claim 2, R^{54} is C_5-C_7 cycloalkyl, phenyl, or substituted phenyl (wherein the substituent is the same as the

substituent defined for the substituted phenyl in claim 2), or

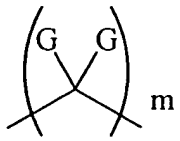
(ii)



wherein Z and R^{54} are defined as the same as the above,

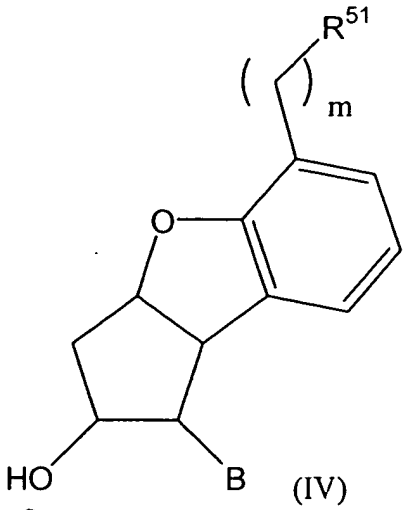
E is hydrogen or -OH,

A is



wherein m represents an integer of 0 to 2, G represents hydrogen or fluorine, and all Gs may be the same or different].

6. The agent for modulating growth or generation of hair according to claim 5, wherein the said 5,6,7-trinor-4,8-inter-m-phenylene PGI2 derivative is represented by the following Formula (IV):

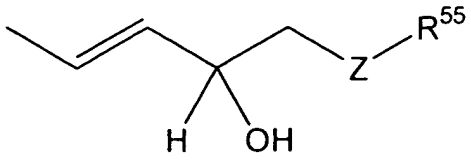


(IV)

[wherein R^{51} represents the following in the definition of claim 5,

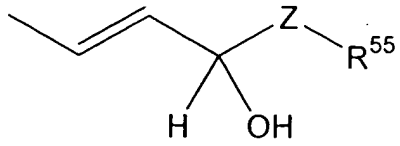
B is

(i)



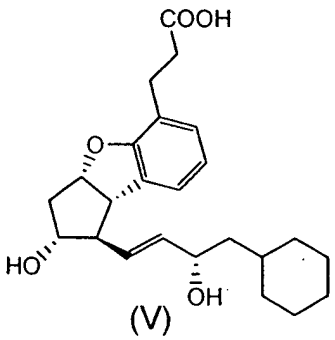
wherein Z represents the following in the definition of claim 2, R^{55} is C_5-C_7 cycloalkyl or phenyl, or

(ii)

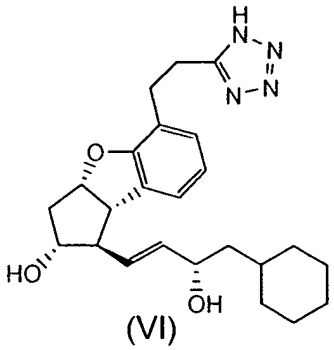


wherein Z and R^{55} are defined as the same as the above, m represents an integer of 0 to 2].

7. The agent for modulating growth or generation of hair according to claim 6, wherein the said 5,6,7-trinor-4,8-inter-m-phenylene PGI_2 derivative is represented by the following Formula (V) or (VI).



(V)



(VI)

8. The agent for modulating growth or generation of hair according to any one of claims 1 to 7, which is a promoting agent for growth or generation of hair.

9. Use of a prostaglandin EP4 receptor ligand for production of an agent for modulating growth or generation of hair.

10. The use according to claim 9, wherein the said prostaglandin EP4 receptor ligand is a 5,6,7-trinor-4,8-inter-m-phenylene PGI_2 derivative of said Formula (I) (wherein the definitions of the substituents in Formula (I) are the same as the definitions of the respective substituents in Formula (I) in claim 2) or a pharmacologically acceptable salt thereof.

11. The use according to claim 10, wherein the said 5,6,7-trinor-4,8-inter-m-phenylene PGI_2 derivative is represented by Formula (I) (wherein the definitions of

Left, right, and simultaneous left and right truncation are available in the Basic Index. See HELP SFIELDS for details.

THIS FILE CONTAINS CAS REGISTRY NUMBERS FOR EASY AND ACCURATE SUBSTANCE IDENTIFICATION.

```
L25          745 SEA FILE=MEDLINE ABB=ON  RECEPTORS, PROSTAGLANDIN E/CT
L26          200 SEA FILE=MEDLINE ABB=ON  L25 AND EP4
L27        25171 SEA FILE=MEDLINE ABB=ON  LIGANDS/CT
L28           12 SEA FILE=MEDLINE ABB=ON  L26 AND L27


L25          745 SEA FILE=MEDLINE ABB=ON  RECEPTORS, PROSTAGLANDIN E/CT
L29           94 SEA FILE=MEDLINE ABB=ON  L25(L)AG/CT - Subheading AG = agonists
L30           28 SEA FILE=MEDLINE ABB=ON  L29/MAJ
L31            5 SEA FILE=MEDLINE ABB=ON  L30 AND EP4


L75           15 L28 OR L31

FILE 'EMBASE' ENTERED AT 14:52:12 ON 18 MAR 2002
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 FILE COVERS 1974 TO 14 Mar 2002 (20020314/ED)

 EMBASE has been reloaded. Enter HELP RLOAD for details.

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


L35          265 SEA FILE=EMBASE ABB=ON  PROSTAGLANDIN E RECEPTOR/CT
L36            1 SEA FILE=EMBASE ABB=ON  PROSTAGLANDIN EP 4 RECEPTOR/CT
L37           10 SEA FILE=EMBASE ABB=ON  PROSTAGLANDIN EP4 RECEPTOR/CT
L38        11469 SEA FILE=EMBASE ABB=ON  LIGAND/CT
L41          462 SEA FILE=EMBASE ABB=ON  EP4 OR EP 4
L42          133 SEA FILE=EMBASE ABB=ON  (L35 AND L41) OR L36 OR L37
L43            2 SEA FILE=EMBASE ABB=ON  L42 AND L38


FILE 'WPIDS' ENTERED AT 14:52:12 ON 18 MAR 2002
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FILE LAST UPDATED: 13 MAR 2002              <20020313/UP>
MOST RECENT DERWENT UPDATE            200217   <200217/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> SDI'S MAY BE RUN ON EVERY UPDATE OR MONTHLY AS OF JUNE 2001.
    (EVERY UPDATE IS THE DEFAULT). FOR PRICING INFORMATION
    SEE HELP COST <<<

>>> FOR UP-TO-DATE INFORMATION ABOUT THE DERWENT CHEMISTRY
    RESOURCE, PLEASE VISIT
         http://www.derwent.com/chemistryresource/index.html <<<

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES,
    SEE http://www.derwent.com/dwpi/updates/dwpicov/index.html <<<
```

=> fil capl; d que l24; fil medl; d que l28; d que l31; s 128 or 131; fil embase; d que l43; fil wpids; d que l56; fil drugu; d que l72
FILE 'CAPLUS' ENTERED AT 14:52:11 ON 18 MAR 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 18 Mar 2002 VOL 136 ISS 12
FILE LAST UPDATED: 17 Mar 2002 (20020317/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the CAS files between 12/27/01 and 1/23/02. As of 1/23/02, the situation has been resolved. Searches and/or SDIs in the H/Z/CA/CAplus files incorporating CAS Registry Numbers with the P indicator executed between 12/27/01 and 1/23/02 may be incomplete. See the NEWS message on this topic for more information.

L6	1586	SEA	FILE=CAPLUS ABB=ON	PROSTANOID RECEPTORS+OLD/CT
L7	412	SEA	FILE=CAPLUS ABB=ON	EP4
L8	230	SEA	FILE=CAPLUS ABB=ON	L6(L)L7
L9	114438	SEA	FILE=CAPLUS ABB=ON	LIGAND#/OBI
L12	53722	SEA	FILE=CAPLUS ABB=ON	PROSTAGLANDIN#/OBI
L13	160	SEA	FILE=CAPLUS ABB=ON	L12(L)L7
L24	5	SEA	FILE=CAPLUS ABB=ON	(L8 OR L13)(L)L9

FILE 'MEDLINE' ENTERED AT 14:52:12 ON 18 MAR 2002

FILE LAST UPDATED: 17 MAR 2002 (20020317/UP). FILE COVERS 1958 TO DATE.

On April 22, 2001, MEDLINE was reloaded. See HELP RLOAD for details.

MEDLINE now contains IN-PROCESS records. See HELP CONTENT for details.

MEDLINE is now updated 4 times per week. A new current-awareness alert frequency (EVERYUPDATE) is available. See HELP UPDATE for more information.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2001 vocabulary. Enter HELP THESAURUS for details.

The OLDMEDLINE file segment now contains data from 1958 through 1965. Enter HELP CONTENT for details.

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L51        5835 SEA FILE=WPIDS ABB=ON  (PROSTAGLANDIN# OR PROSTANOID#)
L52          47 SEA FILE=WPIDS ABB=ON  EP4 OR EP 4
L53       18626 SEA FILE=WPIDS ABB=ON  LIGAND#
L56           1 SEA FILE=WPIDS ABB=ON  L51 AND L52 AND L53


FILE 'DRUGU' ENTERED AT 14:52:13 ON 18 MAR 2002
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FILE LAST UPDATED: 18 MAR 2002      <20020318/UP>
>>>  DERWENT DRUG FILE (SUBSCRIBER)  <<<

>>>  SDI'S MAY BE RUN WEEKLY OR MONTHLY AS OF JUNE 2001.  <<<
>>>  (WEEKLY IS THE DEFAULT). FOR PRICING INFORMATION     <<<
>>>  SEE HELP COST                                        <<<

>>>  FILE COVERS 1983 TO DATE  <<<
>>>  THESAURUS AVAILABLE IN /CT  <<<


L64       50207 SEA FILE=DRUGU ABB=ON  (PROSTAGLANDIN# OR PROSTANOID#)
L65         102 SEA FILE=DRUGU ABB=ON  EP4 OR EP 4
L66       13957 SEA FILE=DRUGU ABB=ON  LIGAND#
L71          50 SEA FILE=DRUGU ABB=ON  L64 AND L65
L72           8 SEA FILE=DRUGU ABB=ON  L66 AND L71


=> dup rem l75,l72,l24,l43,l56
FILE 'MEDLINE' ENTERED AT 14:52:43 ON 18 MAR 2002

FILE 'DRUGU' ENTERED AT 14:52:43 ON 18 MAR 2002
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PROCESSING COMPLETED FOR L75
PROCESSING COMPLETED FOR L72
PROCESSING COMPLETED FOR L24
PROCESSING COMPLETED FOR L43
PROCESSING COMPLETED FOR L56
L76           30 DUP REM L75 L72 L24 L43 L56 (1 DUPLICATE REMOVED)
                 ANSWERS '1-15' FROM FILE MEDLINE
                 ANSWERS '16-23' FROM FILE DRUGU
                 ANSWERS '24-27' FROM FILE CAPLUS
                 ANSWERS '28-29' FROM FILE EMBASE
                 ANSWER '30' FROM FILE WPIDS

=> d ibib ab 1-30

L76  ANSWER 1 OF 30     MEDLINE                          DUPLICATE 1
ACCESSION NUMBER:   1999002825     MEDLINE
```

DOCUMENT NUMBER: 99002825 PubMed ID: 9788776
TITLE: A conserved threonine in the second extracellular loop of the human EP2 and **EP4** receptors is required for ligand binding.
AUTHOR: Stillman B A; Audoly L; Breyer R M
CORPORATE SOURCE: Department of Pharmacology and Vanderbilt Cancer Center, Vanderbilt University School of Medicine, Nashville, TN 37232-2372, USA.
CONTRACT NUMBER: CA-68485 (NCI)
DK-46205 (NIDDK)
GM-15431 (NIGMS)
SOURCE: EUROPEAN JOURNAL OF PHARMACOLOGY, (1998 Sep 11) 357 (1) 73-82.
Journal code: EN6; 1254354. ISSN: 0014-2999.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199901
ENTRY DATE: Entered STN: 19990115
Last Updated on STN: 19990115
Entered Medline: 19990104

AB G protein coupled receptors for prostaglandins are activated when agonists are bound to a binding pocket formed in part by the seven transmembrane domains. Recent studies have determined that substitution of a conserved threonine in the second extracellular loop of the prostaglandin EP3 receptor resulted in increased affinity for ligands with a C1 methyl ester moiety. The homologous threonine in the second extracellular loop of the human prostaglandin EP2 and **EP4** receptors was mutated to alanine. When expressed in COS1 cells, detectable radioligand binding at both of these receptors bearing the threonine to alanine substitution (EP2T185A; EP4T168A) was abolished, as well as the receptors' ability to stimulate intracellular [cAMP]. In contrast, EP2 and **EP4** receptors bearing conservative threonine to serine mutations (EP2T185S; EP4T168S) displayed Kd values for [3H]prostaglandin E2 similar to wild type receptors: 8.8 +/- 0.7 nM for EP2T185S compared to 12.9 +/- 1.2 nM for EP2 wild type; 2.0 +/- 0.8 nM for EP4T168S compared to 0.9 +/- 0.3 nM for the **EP4** wild type receptor. The EC50 values for cAMP stimulation were 1.3 +/- 0.6 nM for EP2 wild type; 2.7 +/- 1.3 nM for EP2T185S; 1.1 +/- 0.3 nM for **EP4** wild type; and 1.4 +/- 0.33 nM for EP4T168S. These studies suggest a critical role for the hydroxyl moiety on these conserved threonine residues at position 168/185 of the second extracellular loop in prostaglandin receptor-ligand interactions.

L76 ANSWER 2 OF 30 MEDLINE
ACCESSION NUMBER: 2001402907 MEDLINE
DOCUMENT NUMBER: 21347066 PubMed ID: 11454474
TITLE: Design and synthesis of a highly selective **EP4** -receptor agonist. Part 2: 5-thia and 9beta-haloPG derivatives with improved stability.
AUTHOR: Maruyama T; Asada M; Shiraishi T; Sakata K; Seki A; Yoshida H; Shinagawa Y; Maruyama T; Ohuchida S; Nakai H; Kondo K; Toda M
CORPORATE SOURCE: Minase Research Institute, Ono Pharmaceutical Co., Ltd., Shimamoto, Mishima, 618-8585, Osaka, Japan.. to.maruyama@ono.co.jp
SOURCE: BIOORGANIC AND MEDICINAL CHEMISTRY LETTERS, (2001 Aug 6) 11 (15) 2033-5.
Journal code: C8B; 9107377. ISSN: 0960-894X.
PUB. COUNTRY: England: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals

ENTRY MONTH: 200110
ENTRY DATE: Entered STN: 20011008
Last Updated on STN: 20011008
Entered Medline: 20011004

AB Further chemical modification to identify more chemically stabilized **EP4**-receptor selective agonists was continued. As a result, a further two **EP4**-receptor selective agonists 5-thiaPGE(1) 2a, 10 and 9beta-chloroPGF(2) analogue 11 were discovered.

L76 ANSWER 3 OF 30 MEDLINE
ACCESSION NUMBER: 2001402906 MEDLINE
DOCUMENT NUMBER: 21347065 PubMed ID: 11454473
TITLE: Design and synthesis of a highly selective **EP4** -receptor agonist. Part 1: 3,7-dithiaPG derivatives with high selectivity.
AUTHOR: Maruyama T; Asada M; Shiraishi T; Ishida A; Egashira H; Yoshida H; Maruyama T; Ohuchida S; Nakai H; Kondo K; Toda M
CORPORATE SOURCE: Minase Research Institute, Ono Pharmaceutical Co., Ltd., Shimamoto, Mishima, 618-8585, Osaka, Japan..
to.maruyama@ono.co.jp
SOURCE: BIOORGANIC AND MEDICINAL CHEMISTRY LETTERS, (2001 Aug 6) 11 (15) 2029-31.
Journal code: C8B; 9107377. ISSN: 0960-894X.
PUB. COUNTRY: England: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200110
ENTRY DATE: Entered STN: 20011008
Last Updated on STN: 20011008
Entered Medline: 20011004

AB A series of 3,7-dithiaPGE(1) analogues 3, 4, 11, 16 and 19 were identified as highly selective **EP4**-receptor agonists starting from the chemical modification of 7-thiaPGE(1) analogue 1. **EP4**-receptor selectivity and agonist activity were maximized in 3 and 4.

L76 ANSWER 4 OF 30 MEDLINE
ACCESSION NUMBER: 2002019190 MEDLINE
DOCUMENT NUMBER: 21337491 PubMed ID: 11444590
TITLE: Aqueous flare elevation induced by transcorneal application of highly selective agonists for prostaglandin E2 receptor subtypes in pigmented rabbits: effect of tetramethylpyrazine.
AUTHOR: Kitagawa K; Hayasaka S; Watanabe K; Nagaki Y
CORPORATE SOURCE: Department of Ophthalmology, Toyama Medical and Pharmaceutical University, Sugitani, Japan.
SOURCE: PROSTAGLANDINS AND OTHER LIPID MEDIATORS, (2001 Jul) 65 (4) 189-98.
Journal code: 9808648. ISSN: 1098-8823.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200112
ENTRY DATE: Entered STN: 20020121
Last Updated on STN: 20020121
Entered Medline: 20011207

AB We examined the disruptive effect of highly selective agonists for prostaglandin E2 receptor subtypes (EP1, EP2, EP3 and **EP4**) on the blood-aqueous barrier, and evaluated the inhibitory effect of tetramethylpyrazine, an active component of Ligusticum wallichii, on the elevation of aqueous flare induced by the EP agonists in pigmented rabbits. Highly selective EP agonists (ONO-DI-004, EP1 agonist;

ONO-AE1-259-01, EP2 agonist; ONO-AE-248, EP3 agonist; ONO-AE1-329, **EP4** agonist) at 12.5 to 250 microg/ml were transcorneally administered to the eyes of pigmented rabbits using a glass cylinder. Animals were pretreated intravenously with tetramethylpyrazine (10 or 30 mg/kg) 30 minutes before application of the EP2 or the **EP4** agonist. Aqueous flare was measured using a laser flare-cell meter. Aqueous flare intensity was expressed as the area under the curve (AUC) in arbitrary units. After administration of ONO-AE1-259-01 or ONO-AE1-329, aqueous flare increased and then gradually decreased. ONO-DI-004 and ONO-AE-248 had almost no effect on aqueous flare elevation. The AUC of eyes in rabbits pretreated with tetramethylpyrazine, 10 or 30 mg/kg i.v., was significantly smaller than that of eyes in rabbits treated with ONO-AEI-259-01 alone. The AUC of eyes in rabbits pretreated with tetramethylpyrazine, 10 or 30 mg/kg i.v., was not significantly smaller than that of eyes in rabbits treated with ONO-AEI-329 only. The results indicated that EP2 and **EP4** agonists induced aqueous flare elevation in pigmented rabbits, and that tetramethylpyrazine inhibited the aqueous flare elevation induced by the EP2 agonist but did not suppress the elevation induced by the **EP4** agonist.

L76 ANSWER 5 OF 30 MEDLINE
ACCESSION NUMBER: 2001421063 MEDLINE
DOCUMENT NUMBER: 21363385 PubMed ID: 11470276
TITLE: Agonist-induced internalization and mitogen-activated protein kinase activation of the human prostaglandin **EP4** receptor.
AUTHOR: Desai S; Ashby B
CORPORATE SOURCE: Department of Pharmacology, Temple University School of Medicine, Philadelphia, PA 19140, USA.
SOURCE: FEBS LETTERS, (2001 Jul 20) 501 (2-3) 156-60. Journal code: EUH; 0155157. ISSN: 0014-5793.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200108
ENTRY DATE: Entered STN: 20010813
Last Updated on STN: 20010813
Entered Medline: 20010809

AB We examined the pathway of prostaglandin E(2) (PGE(2))-induced internalization of the prostaglandin **EP4** receptor in HEK 293 cells. Co-expression of dominant negative beta-arrestin (319-418) or dynamin I (K44A) with the **EP4** receptor reduced internalization. The activated receptor co-localized with GFP-arrestin 2 and GFP-arrestin 3, confirming the requirement for beta-arrestins in internalization. Inhibition of clathrin-coated vesicle-mediated internalization resulted in inhibition of sequestration, whereas inhibition of caveola-mediated internalization had no effect. PGE(2) stimulation of the **EP4** receptor resulted in rapid mitogen-activated protein (MAP) kinase activation. Examination of an internalization-resistant mutant and co-expression of mutant accessory proteins with **EP4** revealed that MAP kinase activation proceeds independently of internalization.

L76 ANSWER 6 OF 30 MEDLINE
ACCESSION NUMBER: 2001103447 MEDLINE
DOCUMENT NUMBER: 20408730 PubMed ID: 10952683
TITLE: Pharmacological characterization of [(3)H]-prostaglandin E(2) binding to the cloned human EP(4) prostanoid receptor.
AUTHOR: Davis T L; Sharif N A
CORPORATE SOURCE: Molecular Pharmacology Unit, Alcon Research, Ltd., (R2-19) 6201 South Freeway, Fort Worth, Texas, TX 76134, USA.
SOURCE: BRITISH JOURNAL OF PHARMACOLOGY, (2000 Aug) 130 (8) 1919-26.

Journal code: B00. ISSN: 0007-1188.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200102
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010208

AB Prostaglandin (PG) E(2) (PGE(2)) is a potent prostanoid derived from arachidonic which can interact with EP(1), EP(2), EP(3) and EP(4) prostanoid receptor subtypes. Recombinant human EP(4) receptors expressed in human embryonic kidney (HEK-293) cells were evaluated for their binding characteristics using [(3)H]-PGE(2) and a broad panel of natural and synthetic prostanoids in order to define their pharmacological properties. [(3)H]-PGE(2) binding was optimal in 2-[N-Morpholino]ethanesulphonic acid (MES) buffer (pH 6.0) yielding 98+/-0.7% specific binding. The receptor displayed high affinity (K(d)=0.72+/-0.12 nM; n=3) for [(3)H]-PGE(2) and interacted with a saturable number of binding sites (B(max)=6.21+/-0.84 pmol mg(-1) protein). In competition studies, PGE(2) (K(i)=0.75+/-0.03 nM; n=12) and PGE(1) (K(i)=1.45+/-0.24 nM; n=3) displayed high affinities, as did two derivatives of PGE(1), namely 11-deoxy-PGE(1) (K(i)=1.36+/-0.34 nM) and 13,14-dihydro-PGE(1) (K(i)=3.07+/-0.29 nM). Interestingly, synthetic DP receptor-specific agonists such as BW245C (K(i)=64.7+/-1.0 nM; n=3) and ZK118182 (K(i)=425+/-42 nM; n=4), and the purported EP(3) receptor-specific ligand enprostil (K(i)=43.1+/-4.4 nM), also displayed high affinity for the EP(4) receptor. Two known EP(4) receptor antagonists were weak inhibitors of [(3)H]-PGE(2) binding akin to their known functional potencies, thus: AH23848 (K(i)=2690+/-232 nM); AH22921 (K(i)=31,800+/-4090 nM). These studies have provided a detailed pharmacological characterization of the recombinant human EP(4) receptor expressed in HEK-293 cells.

L76 ANSWER 7 OF 30 MEDLINE
ACCESSION NUMBER: 2000047870 MEDLINE
DOCUMENT NUMBER: 20047870 PubMed ID: 10579976
TITLE: Prostaglandin E(2) stimulates rat and human colonic mucin exocytosis via the EP(4) receptor.
AUTHOR: Belley A; Chadee K
CORPORATE SOURCE: Institute of Parasitology, McGill University, Quebec, Canada.
SOURCE: GASTROENTEROLOGY, (1999 Dec) 117 (6) 1352-62.
Journal code: FH3; 0374630. ISSN: 0016-5085.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199912
ENTRY DATE: Entered STN: 20000113
Last Updated on STN: 20000113
Entered Medline: 19991222

AB BACKGROUND & AIMS: Mucins form an integral part of innate host defenses against intestinal pathogens and irritants. However, the mechanisms whereby mucin secretion is regulated during inflammation are poorly understood. Because prostaglandin E(2) (PGE(2)) is prominent during intestinal inflammation, we investigated its receptor-signaling pathway coupled to mucin exocytosis in the colonic epithelial cell line LS174T and rat colon. METHODS: Reverse-transcription polymerase chain reaction (RT-PCR) and [(3)H]PGE(2) binding assays were used to identify the PGE(2) receptors (EP). Intracellular cyclic adenosine monophosphate ([cAMP](i)) was quantified by enzyme immunoassay. Mucins were metabolically labeled with [(3)H]glucosamine, and mucin secretion was quantified by Sepharose 4B column chromatography, immunoblot analysis, and cesium chloride density

gradient centrifugation. RESULTS: RT-PCR and DNA sequence analysis identified EP(2), EP(3), and EP(4) receptors. Mucin secretion and [cAMP](i) production by LS174T cells were stimulated dose-dependently by PGE(2), the EP(4)-receptor agonist 1-OH-PGE(1), and the EP(3)/EP(4) agonist M&B28767 and were inhibited with the adenylate cyclase inhibitor SQ22536. The EP(1), EP(2), and EP(3)/EP(1)-receptor agonists iloprost, butaprost, and sulprostone, respectively, had no effect. Similar results were obtained in rat colonic loop studies confirming that the EP(4) receptor is linked to mucin exocytosis in vivo. [(3)H]PGE(2) binding to cell membranes identified a high-affinity binding site that was competitively inhibited by M&B28767 (EP(3)/EP(4)) > 1-OH-PGE(1) (EP(4)) > sulprostone (EP(3)/EP(1)) > butaprost (EP(2)). CONCLUSIONS: PGE(2) coupling to the EP(4) receptor stimulates [cAMP](i)-dependent mucin exocytosis.

L76 ANSWER 8 OF 30 MEDLINE
ACCESSION NUMBER: 1999393617 MEDLINE
DOCUMENT NUMBER: 99393617 PubMed ID: 10462542
TITLE: Importance of the extracellular domain for prostaglandin EP(2) receptor function.
AUTHOR: Stillman B A; Breyer M D; Breyer R M
CORPORATE SOURCE: Division of Nephrology, Department of Pharmacology and Vanderbilt Cancer Center, Vanderbilt University School of Medicine, Nashville, Tennessee, USA.
CONTRACT NUMBER: DK37097 (NIDDK)
DK46205 (NIDDK)
GM15431 (NIGMS)
+
SOURCE: MOLECULAR PHARMACOLOGY, (1999 Sep) 56 (3) 545-51.
Journal code: NGR; 0035623. ISSN: 0026-895X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199909
ENTRY DATE: Entered STN: 19990925
Last Updated on STN: 19990925
Entered Medline: 19990914

AB The ligand binding pocket of biogenic amine G protein-coupled receptors is embedded in the membrane-spanning regions of these receptors, whereas the extracellular domains of the peptidergic receptors play a key role in the structure and function of this class of receptors. To examine the role of the extracellular sequences in prostaglandin receptor-ligand interaction, chimeras were constructed with the two G(s)-coupled E-prostanoid (EP) receptors, replacing each of the extracellular sequences of the human EP(2) receptor with the corresponding human EP(4) receptor residues. Replacement of the third extracellular loop (ECIII) yielded a receptor that binds [(3)H]prostaglandin E(2) (PGE(2); K(d) = 6.3 nM) with similar affinity as the EP(2) wild-type receptor (K(d) = 12.9 nM). Similarly, replacement of the nonconserved carboxyl-terminal portion of ECII resulted in a receptor that maintains [(3)H]PGE(2) binding (K(d) = 8.8 nM). In contrast, replacement of the amino terminus, ECI, the entire ECII region, or the residues within the highly conserved motif of the amino-terminal half of ECII yielded chimeras that displayed neither detectable [(3)H]PGE(2) binding nor receptor-evoked cAMP generation. Immunoprecipitation demonstrated that each chimera is expressed at levels near that of wild-type receptors; however, enzyme-linked immunosorbent assay revealed that inactive chimeras have reduced cell surface expression. Similarly, chimeras that exchange the multiple extracellular loop sequences N/ECI, ECII/ECIII, or all four sequences lacked detectable binding and signal transduction, and although expressed, were not detected on the cell surface. These data suggest that the extracellular sequences of the EP(2) receptor are critical determinants of receptor structure

and/or function, unlike other G protein-coupled receptors that bind small molecules.

L76 ANSWER 9 OF 30 MEDLINE
ACCESSION NUMBER: 1999338573 MEDLINE
DOCUMENT NUMBER: 99338573 PubMed ID: 10410384
TITLE: Molecular cloning and characterization of the canine prostaglandin E receptor EP2 subtype.
AUTHOR: Hibbs T A; Lu B; Smock S L; Vestergaard P; Pan L C; Owen T A
CORPORATE SOURCE: Department of Cardiovascular and Metabolic Diseases, Pfizer, Inc., Groton, Connecticut 06340, USA.
SOURCE: PROSTAGLANDINS AND OTHER LIPID MEDIATORS, (1999 May) 57 (2-3) 133-47.
Journal code: C3P; 9808648. ISSN: 1098-8823.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF075602
ENTRY MONTH: 199908
ENTRY DATE: Entered STN: 19990913
Last Updated on STN: 19990913
Entered Medline: 19990831

AB Prostaglandin E2 (PGE2) binds to four G-protein coupled cell surface receptors (EP1-**EP4**) and has been implicated as a local mediator of bone anabolism via a cyclic AMP mediated pathway following activation of the EP2 and/or **EP4** receptor subtype. A canine kidney cDNA library was screened using a human EP2 probe, and a clone with an open reading frame of 1083 bp, potentially encoding a protein of 361 amino acids, was characterized. This open reading frame has 89% identity to the human EP2 cDNA at the nucleotide level and 87% identity at the predicted protein level. Scatchard analysis of a CHO cell line stably transfected with canine EP2 yielded a dissociation constant of 22 nM for PGE2. Competition binding studies, using 3H-PGE2 as ligand, demonstrated specific displacement by PGE2, Prostaglandin E1, Prostaglandin A3, and butaprost (an EP2 selective ligand), but not by ligands with selectivity for the related DP, FP, IP, or TP receptors. Specific ligand binding also resulted in increased levels of cAMP in EP2 transfected cells with no evidence of short-term, ligand-induced desensitization. Northern blot analysis revealed two transcripts of 3300 and 2400 bp in canine lung, and reverse-transcription polymerase chain reaction showed expression in all tissues examined. Southern blot analysis suggests the presence of a single-copy gene for EP2 in the dog.

L76 ANSWER 10 OF 30 MEDLINE
ACCESSION NUMBER: 1998401051 MEDLINE
DOCUMENT NUMBER: 98401051 PubMed ID: 9730918
TITLE: A single amino-acid substitution in the EP2 prostaglandin receptor confers responsiveness to prostacyclin analogs.
AUTHOR: Kedzie K M; Donello J E; Krauss H A; Regan J W; Gil D W
CORPORATE SOURCE: Department of Biological Sciences, Allergan, Inc., Irvine, California 92623-9534, USA.
SOURCE: MOLECULAR PHARMACOLOGY, (1998 Sep) 54 (3) 584-90.
Journal code: NGR; 0035623. ISSN: 0026-895X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199810
ENTRY DATE: Entered STN: 19981020
Last Updated on STN: 19981020
Entered Medline: 19981005

AB A high degree of homology between the four Gs-coupled prostaglandin (PG) receptors [EP2, **EP4**, prostacyclin (IP), PGD2 (DP)] and the four Gq/Gi-coupled receptors [EP1, EP3, PGF2alpha (FP), thromboxane A2 (TP)] suggests that prostaglandin receptors evolved functionally from an ancestral EP receptor before the development of distinct binding epitopes. If so, ligand selectivity should be determined by a limited number of amino acids. EP2 receptor transmembrane domain residues that are similar to those in the **EP4** receptor but differ from those in the IP receptor were mutated to the corresponding IP receptor residue. Activation of the mutant receptors by PGE2 (EP2 ligand), iloprost (stable prostacyclin analog), and PGE1 (EP2/IP ligand) was determined using a cAMP-dependent reporter gene assay. A Leu304-to-tyrosine substitution in the seventh transmembrane domain enhanced iloprost potency approximately 100-fold. A glycine substitution at Ser120 in the third transmembrane domain had no effect on drug potency but improved the response of the Tyr304 mutant. The potency of the natural prostaglandins PGF2alpha and PGD2 was not enhanced by the mutations. In contrast, the potency of all prostaglandins was reduced 10- to 100-fold when arginine 302, which is thought to be a counterion for the prostaglandin carboxylic acid, was mutated. Thus, a single amino acid change resulted in a selective gain of function for iloprost, which is consistent with the proposed phylogeny of the prostaglandin receptors.

L76 ANSWER 11 OF 30 MEDLINE
ACCESSION NUMBER: 1998141044 MEDLINE
DOCUMENT NUMBER: 98141044 PubMed ID: 9537820
TITLE: Molecular cloning and characterization of the four rat prostaglandin E2 prostanoid receptor subtypes.
AUTHOR: Boie Y; Stocco R; Sawyer N; Slipetz D M; Ungrin M D; Neuschafer-Rube F; Puschel G P; Metters K M; Abramovitz M
CORPORATE SOURCE: Department of Biochemistry and Molecular Biology, Merck Frosst Centre for Therapeutic Research, Pointe Claire-Dorval, Que., Canada.
SOURCE: EUROPEAN JOURNAL OF PHARMACOLOGY, (1997 Dec 11) 340 (2-3) 227-41.
Journal code: EN6; 1254354. ISSN: 0014-2999.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199804
ENTRY DATE: Entered STN: 19980416
Last Updated on STN: 19980416
Entered Medline: 19980403

AB We have characterized the rat prostanoid EP1, EP2, EP3alpha and **EP4** receptor subtypes cloned from spleen, hepatocyte and/or kidney cDNA libraries. Comparison of the deduced amino acid sequences of the rat EP receptors with their respective homologues from mouse and human showed 91% to 98% and 82% to 89% identity, respectively. Radioreceptor binding assays and functional assays were performed on EP receptor expressing human embryonic kidney (HEK) 293 cells. The KD values obtained with prostaglandin E2 for the prostanoid receptor subtypes EP1, EP2, EP3alpha and **EP4** were approximately 24, 5, 1 and 1 nM, respectively. The rank order of affinities for various prostanoids at the prostanoid receptor subtypes EP2, EP3alpha and **EP4** receptor subtypes was prostaglandin E2 = prostaglandin E1 > iloprost > prostaglandin F2alpha > prostaglandin D2 > U46619. The rank order at the prostanoid EP1 receptor was essentially the same except that iloprost had the highest affinity of the prostanoids tested. Of the selective ligands, butaprost was selective for prostanoid EP2, M&B28767 and sulprostone were selective for EP3alpha and enprostil displayed dual selectivity, interacting with both prostanoid receptor subtypes EP1 and EP3alpha. All four receptors coupled to their predominant signal transduction pathways in HEK 293 cells. Notably, using

a novel aequorin luminescence assay to monitor prostanoid EP1 mediated increases in intracellular calcium, both iloprost and sulprostone were identified as partial agonists. Finally, by Northern blot analysis EP3 transcripts were most abundant in liver and kidney whereas prostanoid EP2 receptor mRNA was expressed in spleen, lung and testis and prostanoid EP1 receptor mRNA transcripts were predominantly expressed in the kidney. The rat prostanoid EP1 probes also detected additional and abundant transcripts present in all the tissues examined. These were found to be related to the expression of a novel protein kinase gene and not the prostanoid EP1 gene [Batshake, B., Sundelin, J., 1996. The mouse genes for the EP1 prostanoid receptor and the novel protein kinase overlap. Biochem. Biophys. Res. Commun. 227. 1329-1333].

L76 ANSWER 12 OF 30 MEDLINE
ACCESSION NUMBER: 97165991 MEDLINE
DOCUMENT NUMBER: 97165991 PubMed ID: 9013884
TITLE: The C-terminal domain of the Gs-coupled **EP4** receptor confers agonist-dependent coupling control to Gi but no coupling to Gs in a receptor hybrid with the Gi-coupled EP3 receptor.
AUTHOR: Neuschafer-Rube F; Hanecke K; Blaschke V; Jungermann K; Puschel G P
CORPORATE SOURCE: Institut fur Biochemie und Molekulare Zellbiologie, Georg-August-Universitat, Gottingen, Germany.
SOURCE: FEBS LETTERS, (1997 Jan 20) 401 (2-3) 185-90. Journal code: EUH; 0155157. ISSN: 0014-5793.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199702
ENTRY DATE: Entered STN: 19970306
Last Updated on STN: 20000303
Entered Medline: 19970227

AB Prostaglandin E2 receptors (EPR) belong to the family of G-protein-coupled receptors with 7 transmembrane domains. They form a family of four subtypes, which are linked to different G-proteins. EP1R are coupled to Gq, EP2 and EP4R to Gs and EP3R to Gi. Different C-terminal splice variants of the bovine EP3R are coupled to different G-proteins. A mouse EP3R whose C-terminal domain had been partially truncated no longer showed agonist-induced Gi-protein activation and was constitutively active. In order to test the hypothesis that the C-terminal domain confers coupling specificity of the receptors on the respective G-proteins, a cDNA for a hybrid rEP3hEP4R, containing the N-terminal main portion of the Gi-coupled rat EP(3beta)R including the 7th transmembrane domain and the intracellular C-terminal domain of the Gs-coupled human EP4R, was generated by PCR. HEK293 cells transiently transfected with the chimeric rEP3hEP4R cDNA expressed a plasma membrane PGE2 binding site with a slightly lower Kd value for PGE2 but an identical binding profile for receptor-specific ligands as cells transfected with the native rat EP(3beta)R. In HepG2 cells stably transfected with the chimeric rEP3hEP4R cDNA PGE2 did not increase cAMP formation characteristic of Gs coupling but attenuated the forskolin-stimulated cAMP synthesis characteristic of Gi coupling. This effect was inhibited by pre-treatment of the cells with pertussis toxin. Thus, the hybrid receptor behaved both in binding and in functional coupling characteristics as the native rat EP(3beta)R. Apparently, the intracellular C-terminal domain did not confer coupling specificity but coupling control, i.e. allowed a signalling state of the receptor only with agonist binding.

L76 ANSWER 13 OF 30 MEDLINE
ACCESSION NUMBER: 1998010463 MEDLINE
DOCUMENT NUMBER: 98010463 PubMed ID: 9350980

TITLE: The C-terminal domain of the human **EP4** receptor confers agonist-induced receptor desensitization in a receptor hybrid with the rat EP3beta receptor.
AUTHOR: Neuschafer-Rube F; Hanecke K; Puschel G P
CORPORATE SOURCE: Institut fur Biochemie und Molekulare Zellbiologie, Gottingen, Germany.
SOURCE: FEBS LETTERS, (1997 Sep 29) 415 (2) 119-24.
Journal code: EUH; 0155157. ISSN: 0014-5793.
PUB. COUNTRY: Netherlands
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199711
ENTRY DATE: Entered STN: 19980109
Last Updated on STN: 20000303
Entered Medline: 19971128

AB Prostaglandin E2 receptors (EPR), which belong to the family of heterotrimeric G protein-coupled ectoreceptors with seven transmembrane domains, can be classified into four subtypes according to their ligand binding and G protein coupling specificity. Of these, EP3betaR is coupled to Gi, whereas EP4R is coupled to Gs. EP4R, in contrast to EP3betaR, shows agonist-induced desensitization. The C-terminal domain and the third intracellular loop of these receptors have been implicated in G protein coupling specificity and desensitization. Here, receptor hybrids consisting of the main portion of rat EP3betaR and either the C-terminal domain or the third intracellular loop of human EP4R were used to study the contribution of the respective receptor domains to G protein coupling and desensitization. Neither the EP4R C-terminal domain nor the EP4R third intracellular loop alone was sufficient to change the coupling specificity of the rEP3hEP4 receptor hybrids from Gi to Gs or to confer additional Gs coupling. However, the EP4R C-terminal domain but not the third intracellular loop was necessary and sufficient to mediate rapid agonist-induced, second messenger-independent desensitization in the Gi-coupled hybrid receptors.

L76 ANSWER 14 OF 30 MEDLINE
ACCESSION NUMBER: 96440109 MEDLINE
DOCUMENT NUMBER: 96440109 PubMed ID: 8842420
TITLE: Characterization of the PGE2 receptor subtype in bovine chondrocytes in culture.
AUTHOR: de Brum-Fernandes A J; Morisset S; Bkaily G; Patry C
CORPORATE SOURCE: Department of Medicine, Faculty of Medicine, Universite de Sherbrooke, Fleurimont, Quebec, Canada.
SOURCE: BRITISH JOURNAL OF PHARMACOLOGY, (1996 Aug) 118 (7) 1597-604.
Journal code: B00; 7502536. ISSN: 0007-1188.
PUB. COUNTRY: ENGLAND: United Kingdom
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199701
ENTRY DATE: Entered STN: 19970219
Last Updated on STN: 20000303
Entered Medline: 19970129

AB 1. Prostaglandin E2 (PGE2) is an autacoid that decreases proteoglycan synthesis, increases metalloprotease production by cultured chondrocytes, and can modulate some of the actions of interleukin-1 on cartilage. The objective of the present study was to characterize the subtype of prostaglandin E2 receptor present in bovine chondrocytes in culture. 2. Primary cultures of articular chondrocytes were prepared from slices of bovine carpal cartilage by sequential digestion with type III hyaluronidase, trypsin, type II collagenase, followed by overnight incubation in Dulbecco's Modified Eagle's Medium (DMEM) with type II

collagenase, washing, and seeding at a density of 2 x 10(5) cells cm-2 in DMEM with 10% foetal bovine serum. 3. PGE2 and carbaprostacyclin induced dose-dependent increases in intracellular cyclic AMP in bovine chondrocytes in culture. The potencies of these compounds were different, and maximal doses of PGE2 and carbaprostacyclin had an additive effect. PGD2 induced a small increase in intracellular cyclic AMP only at a high concentration (10(-5) M). 4. PGE2 was more potent that the EP2 agonist 11-deoxy-PGE1 at inducing increases in intracellular cyclic AMP. The EP2 agonist butaprost, however, induced only a small increase at a concentration of 10(-5)M. 17-Phenyl-PGE2 (EP1 agonist), sulprostone and MB 28767 (15S-hydroxy-9-oxo-16-phenoxy-omega-tetranorprost-13E-enoic acid) (EP3 agonists) did not induce an increase in intracellular cyclic AMP at concentrations up to 10(-5)M. 5. The **EP4** antagonist AH 23848B ([1 alpha(Z),2 beta, 5 alpha]-(+/-) -7-[5-[[(1,1'-biphenyl)-4-yl]methoxyl-2-(4-morpholinyl) -3-oxocyclopentyl]-5-heptenoic acid) antagonized PGE2 but not carbaprostacyclin effects on intracellular cyclic AMP. The Schild plot slope was different from 1 but this could be due to an interaction of PGE2 with IP receptors in high doses. The exact nature of the antagonism by compound AH 23848B could not be definitely established in these experimental conditions. 6. Neither PGE2 nor any of its analogues inhibited the increase in intracellular cyclic AMP induced by forskolin, and pertussis toxin did not alter the response to PGE2, suggesting that no Gi-coupled PGE2 receptors are present in these cells. Stimulation with PGE2 did not induce significant increases in intracellular inositol-trisphosphate levels nor increases in intracellular free calcium as determined by confocal microscopy, suggesting the absence of phospholipase-C-coupled or of calcium channel-coupled PGE2 receptors in bovine chondrocytes in these experimental conditions. 7. These results show for the first time that bovine chondrocytes in culture present a functional PGE2 receptor that has some pharmacological characteristics of an **EP4** subtype, as well as an IP receptor.

L76 ANSWER 15 OF 30 MEDLINE
ACCESSION NUMBER: 97017250 MEDLINE
DOCUMENT NUMBER: 97017250 PubMed ID: 8863851
TITLE: Two Gs-coupled prostaglandin E receptor subtypes, EP2 and **EP4**, differ in desensitization and sensitivity to the metabolic inactivation of the agonist.
AUTHOR: Nishigaki N; Negishi M; Ichikawa A
CORPORATE SOURCE: Department of Physiological Chemistry, Faculty of Pharmaceutical Sciences, Kyoto University, Japan.
SOURCE: MOLECULAR PHARMACOLOGY, (1996 Oct) 50 (4) 1031-7. Journal code: NGR; 0035623. ISSN: 0026-895X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199611
ENTRY DATE: Entered STN: 19961219
Last Updated on STN: 20000303
Entered Medline: 19961125

AB There are at least four subtypes of prostaglandin E (PGE) receptors. The EP1 and EP3 receptors are coupled to Ca2+ mobilization and the inhibition of adenylate cyclase, respectively, and the EP2 and **EP4** receptors are coupled to the same signal transduction pathway, stimulation of adenylate cyclase. To identify the functional differences between EP2 and **EP4** receptors, we examined agonist-induced desensitization of these two receptors using Chinese hamster ovary cells, which stably express these receptors. The **EP4** receptor underwent short term agonist-induced desensitization, but no such desensitization was observed for the EP2 receptor. In contrast, the EP2 and **EP4** receptors displayed similar patterns of down-regulation in response to prolonged exposure to PGE2. On the other hand, PGE2 is rapidly metabolized to

15-keto-PGE2 and, subsequently, to 13,14-dihydro-15-keto-PGE2. Thus, we compared the sensitivities of the two receptors to these two metabolites. The **EP4** receptor markedly lost the response at the first metabolism, whereas the EP2 receptor gradually lost the response according to the degree of metabolism, having higher sensitivity to the first metabolite, 15-keto-PGE2, than the **EP4** receptor. Therefore, the physiological significance of EP2 and **EP4** may lie in their different sensitivities to agonist-induced short term desensitization and their differential susceptibilities to the metabolic inactivation of the agonist.

L76 ANSWER 16 OF 30 DRUGU COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2002-06389 DRUGU P S E
TITLE: Preclinical efficacy of travoprost, a potent and selective FP **prostaglandin** receptor agonist.
AUTHOR: Hellberg M R; Sallee V L; McLaughlin M A; Sharif N A; Desantis L; Dean T R; Zinke P W
CORPORATE SOURCE: Alcon
LOCATION: Fort Worth, Tex., USA
SOURCE: J.Ocul.Pharmacol.Ther. (17, No. 5, 421-32, 2001) 5 Fig. 4 Tab. 23 Ref.
CODEN: JOPTF ISSN: 1080-7683
AVAIL. OF DOC.: Alcon Research Ltd., 6201 South Freeway, Fort Worth, Texas 76134, U.S.A. (e-mail: Mark.Hellberg@AlconLabs.com).
LANGUAGE: English
DOCUMENT TYPE: Journal
FIELD AVAIL.: AB; LA; CT
FILE SEGMENT: Literature
AB Topical travoprost (TR, AL-5848, Alcon, prodrug of the active carboxylic acid (TR acid)) produced lower incidence of ocular irritation and hyperemia compared with PGF-2alpha isopropyl ester in rabbits. TR also showed a miotic effect in cats and reduced intraocular pressure (IOP) in ocular hypertensive monkeys. Topical latanoprost (LT, Cayman-Chem.) did not affect IOP in the lasered monkey. TR acid (Alcon) did not stimulate adenylate cyclase activity mediated by the PG DP receptor in bovine embryonic tracheal cells, the PG EP2 receptor in transformed human non-pigmented ciliary endothelium cells, the PG **EP4** receptor in CHO cells, or IP PG receptor in NCB-20 neuroblastoma cells. TR is a promising ocular hypertensive FP derivative that has the ocular hypotensive efficacy of PGF-2alpha isopropyl ester but with less severe ocular side effects.

L76 ANSWER 17 OF 30 DRUGU COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2001-43233 DRUGU P E
TITLE: Functional pharmacological evidence for EP2 and **EP4** **prostanoid** receptors in immortalized human trabecular meshwork and nonpigmented ciliary epithelial cells.
AUTHOR: Crider J Y; Sharif N A
CORPORATE SOURCE: Alcon
LOCATION: Fort Worth, Tex., USA
SOURCE: J.Ocul.Pharmacol.Ther. (17, No. 1, 35-46, 2001) 5 Fig. 2 Tab. 52 Ref.
CODEN: JOPTF ISSN: 1080-7683
AVAIL. OF DOC.: Alcon Research Ltd. R2-43, 6201 South Freeway, Fort Worth, Texas 76134 U.S.A. (e-mail: Julie.Crider@AlconLabs.com).
LANGUAGE: English
DOCUMENT TYPE: Journal
FIELD AVAIL.: AB; LA; CT
FILE SEGMENT: Literature
AB Exposure to PG receptor agonists resulted in a similar response profile in immortalized human trabecular meshwork (TM-3) and immortalized human nonpigmented epithelial (NPE) cells. The rank order of potency for these **ligands** in the TM-3 cells was PGE2 greater than

13,14-dihydro-PGE1 equals PGE1 greater than 11-deoxy-PGE1 equals 16,16-dimethyl-PGE2 (all 5 Cayman) equals butaprost acid greater than PGD2 equals PGF2-alpha equals PGI2 (all 3 Cayman). AH-23848-B (GlaxoWellcome) caused a dextral shift in the PGE2 concentration-response curves in both TM-3 and NPE cells coupled with a decrease in the maximal response to PGE2. AH-22921 (GlaxoWellcome) was weaker than AH-23848-B. Findings suggest that TM-3 and NPE cells apparently contain functional EP2 and **EP4 prostanoid** receptors positively coupled to adenylyl cyclase.

L76 ANSWER 18 OF 30 DRUGU COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2000-09817 DRUGU P E
TITLE: The utilization of recombinant **prostanoid** receptors to determine the affinities and selectivities of **prostaglandins** and related analogs.
AUTHOR: Abramovitz M; Adam M; Boie Y; Carriere M C; Denis D; Godbout C; Lamontagne S; Rochette C; Sawyer N; Metters K M
CORPORATE SOURCE: Merck-Frosst
LOCATION: Pointe Claire Dorval, Que., Can.
SOURCE: Biochim.Biophys.Acta Mol.Cell Biol.Lipids (1483, No. 2, 285-93, 2000) 2 Tab. 23 Ref. ISSN: 1388-1981
AVAIL. OF DOC.: Department of Biochemistry and Molecular Biology, Merck Frosst Centre for Therapeutic Research, Box 1005 Pointe-Claire-Dorval, Que. H9R 4P8, Canada. (K.M.M.). (19 Authors).
LANGUAGE: English
DOCUMENT TYPE: Journal
FIELD AVAIL.: AB; LA; CT
FILE SEGMENT: Literature
AB Human embryonic kidney (HEK) cells were incubated with human **prostanoid** receptor **ligands**: PGE2, SC-51322 (antagonist), SC-51089 (antagonist), misoprostol free acid, misoprostol methylester, PGD2, PGF2-alpha, fluprostenol, carbacyclin, SQ-29548 (antagonist), U-46619 (all Biomol), xanoxate (antagonist, Glaxo), butaprost free acid, butaprost methylester, M+B-28767, enprostil, latanoprost, AH-23848 (antagonist), AH23848- (antagonist) (all Merck-Frosst), sulprostone (Cayman-Chem.), GR-63799 (Amersham), BW-245C (Wellcome), cloprostenol (Sigma-Chem.), cicaprost, ZK-110841. The affinity and selectivity of these compounds to the recombinant human **prostanoid** receptors: EP 1-4, DP, FP, IP and TP were assessed. This information should facilitate interpretation of study that employ these **ligands** as tools to study human tissues and cell lines.

L76 ANSWER 19 OF 30 DRUGU COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1999-39582 DRUGU C P E
TITLE: New class of biphenylene dibenzazocinones as potent **ligands** for the human EP1 **prostanoid** receptor.
AUTHOR: Ruel R; Lacombe P; Abramovitz M; Godbout C; Lamontagne S; Rochette C; Sawyer N; Stocco R; Tremblay N M; Metters K M; Labelle M
CORPORATE SOURCE: Merck-Frosst
LOCATION: Pointe Claire-Dorval, Que., Can.
SOURCE: Bioorg.Med.Chem.Lett. (9, No. 18, 2699-704, 1999) 1 Fig. 4 Tab. 14 Ref.
CODEN: BMCLE8 ISSN: 0960-894X
AVAIL. OF DOC.: Merck Frosst Centre for Therapeutic Research P.O. Box 1005, Pointe Claire-Dorval, Quebec, Canada H9R 4P8.
LANGUAGE: English
DOCUMENT TYPE: Journal
FIELD AVAIL.: AB; LA; CT
FILE SEGMENT: Literature
AB Some novel biphenylene dibenzazocinone derivatives were synthesized as

antagonists for the human EP1 **prostanoid** receptor. Several of these compounds showed potent and selective EP1 affinity with similar potency to the endogenous **ligand** PGE2. Structure activity relationships were discussed.

L76 ANSWER 20 OF 30 DRUGU COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1999-44311 DRUGU P E
TITLE: Developmental changes in **prostaglandin** E2 receptor subtypes in porcine ductus arteriosus.
AUTHOR: Bhattacharya M; Asselin P; Hardy P; Guerguerian A M; Shichi H; Hou X; Varma D R; Bouayad A; Fouron J C; Chemtob S
CORPORATE SOURCE: Univ.McGill; Univ.Montreal; Univ.Wayne-State; Univ.California
LOCATION: Montreal, Que., Can.; Detroit, Mich.; San Francisco, Cal., USA
SOURCE: Circulation (100, No. 16, 1751-56, 1999) 3 Fig. 3 Tab. 29 Ref.
CODEN: CIRCAZ ISSN: 0009-7322
AVAIL. OF DOC.: Research Center, St.Justine Hospital, 3175 Cote St.Catherine, Montreal Quebec, Canada, H3T 1C5. (S.C.). (11 Authors). (E-mail: chemtobs@ere.umontreal.ca).
LANGUAGE: English
DOCUMENT TYPE: Journal
FIELD AVAIL.: AB; LA; CT
FILE SEGMENT: Literature
AB **Prostaglandin** E2 receptor subtypes in the ductus arteriosus of fetal and new-born pigs were studied in-vitro and in-vivo using PGE2, 17-phenyl-trinor PGE2, 16,16-dimethyl-PGE2, sulprostone, 11-deoxy-PGE1, AH-6809, AH-23848B (Glaxo-Wellcome), butaprost (Bayer) and M+B-28767 (Rhone-Poulenc-Rorer). Fetal ductus arteriosus expressed EP2, EP3 and **EP4** receptors, while neonatal tissue expressed EP2 receptors. In-vivo, the ductus arteriosus was dilated by i.v. 16,16-dimethyl-PGE2, 11-deoxy-PGE1 and butaprost. EP receptors in the ductus arteriosus change with developmental stage, suggesting that more selective EP **ligands** could be used to control ductus arteriosus patency and reduce side-effects associated with non-selective therapy.

L76 ANSWER 21 OF 30 DRUGU COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1998-19088 DRUGU P E
TITLE: Characterization of the recombinant human **prostanoid** DP receptor and identification of L-644,698, a novel selective DP agonist.
AUTHOR: Wright D H; Metters K M; Abramovitz M; Ford Hutchinson A W
CORPORATE SOURCE: Univ.McGill
LOCATION: Montreal; Pointe Claire-Dorval, Que., Can.
SOURCE: Br.J.Pharmacol. (123, No. 7, 1317-24, 1998) 6 Fig. 3 Tab. 45 Ref.
CODEN: BJPCBM ISSN: 0007-1188
AVAIL. OF DOC.: Department of Biochemistry and Molecular Biology, Merck Frosst Centre for Therapeutic Research, Pointe Claire-Dorval, Quebec, Canada, H9R 4P8. (K.M.M.).
LANGUAGE: English
DOCUMENT TYPE: Journal
FIELD AVAIL.: AB; LA; CT
FILE SEGMENT: Literature
AB Compound L-644698 was found to bind selectively to recombinant human PGD2 receptors during receptors characterization studies. The affinity of L-644698 for PGD2 receptors was of the same order as that of PGD2, and PGE2, PGF2-alpha, iloprost, PGD2 receptor-specific synthetic **ligands** BW-245C, BW-A868C and ZK-110841, and metabolite PGJ2, also had high affinity. Further studies using cloned human PG receptors showed that L-644698 had low levels of binding of EP1, EP2, EP3, **EP4**, FP, IP, and TP receptors, and was among the most selective of the PGD2 receptor agonists tested. L-644698 was as potent as PGD2 in

a cAMP generation assay in cells expressing recombinant PGD2 receptor.

L76 ANSWER 22 OF 30 DRUGU COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1998-21743 DRUGU C P E
TITLE: Activity and receptor selectivity of misoprostol, sulprostone and 9-hydroxy variants at cloned EP3 and EP1 receptors.
AUTHOR: Soper D; Brann M; Amburgey J; Miley C; Wos J; Wang Y; Hartke J; De B; Delong M A
CORPORATE SOURCE: Procter+Gamble
LOCATION: Cincinatti, Ohio, USA
SOURCE: Abstr.Pap.Am.Chem.Soc. (215 Meet., Pt. 1, MEDI 050A, 1998)
CODEN: ACSRAL ISSN: 0065-7727
AVAIL. OF DOC.: Procter & Gamble Pharmaceuticals, Cincinatti, OH 45253, U.S.A.
LANGUAGE: English
DOCUMENT TYPE: Journal
FIELD AVAIL.: AB; LA; CT
FILE SEGMENT: Literature
AB **Prostaglandins**, and in particular PGE2 are powerful mediators of bone receptors and may be useful bone anabolic agents. PGE2 acts via the stimulation of any of four PGE-receptors, namely EP1, EP2, EP3 or **EP4**. Since PGE2 is essentially non-selective it is unclear which receptors are responsible for PGE2 effects. In order to confirm that sulprostol and misoprostol are EP3 and EP1 **ligands** as previously reported, these compounds were tested in cloned, transiently expressed human receptors. The C-9 ketone was reduced to the epimeric alcohols and their activity and selectivity was studied. (conference abstract).

L76 ANSWER 23 OF 30 DRUGU COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1997-23104 DRUGU P E
TITLE: 7,7-Difluoroprostacyclin derivative, AFP-07, a highly selective and potent agonist for the prostacyclin receptor.
AUTHOR: Chang C S; Negishi M; Nakano T; Morizawa Y; Matsumura Y; Ichikawa A
CORPORATE SOURCE: Univ.Kyoto; Asahi-Kasei
LOCATION: Kyoto; Yokohama, Jap.
SOURCE: Prostaglandins (53, No. 2, 83-90, 1997) 4 Fig. 15 Ref.
CODEN: PRGLBA ISSN: 0090-6980
AVAIL. OF DOC.: Department of Physiological Chemistry, Faculty of Pharmaceutical sciences, Kyoto University, Kyoto, Sakyo-ku 606, Japan. (e-mail:aichikaw@pharmsun.pharm.kyoto-u.ac.jp). (A.I.).
LANGUAGE: English
DOCUMENT TYPE: Journal
FIELD AVAIL.: AB; LA; CT
FILE SEGMENT: Literature
AB The potency and selectivity of prostacyclin derivatives, PGE2 (dinoprostone, Funakoshi) and iloprost (Amersham) for the prostacyclin (IP) receptor and the PGE receptor subtypes E1, E2, E3 and E4 in Chinese hamster ovary cells were studied. AFP-07 had a higher affinity than AFP-03 and AFP-06. AFP-07 strongly displaced the 3-H iloprost binding to the IP receptor and concentration dependently stimulated cAMP formation. AFP-07 showed lower affinity for the EP1, EP2, EP3 and **EP4** receptors than PGE2. Iloprost had the same affinity as PGE2 for the EP1 receptor. The results showed that AFP-07 is a potent and highly selective agonist of the IP receptor.

L76 ANSWER 24 OF 30 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:763060 CAPLUS
DOCUMENT NUMBER: 135:299092
TITLE: Non-endogenous, constitutively activated known G protein-coupled receptors useful for ligand screening

assays
INVENTOR(S): Lehmann-Bruinsma, Karin; Liaw, Chen W.; Lin, I-Lin
PATENT ASSIGNEE(S): Arena Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 396 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001077172	A2	20011018	WO 2001-US11098	20010405

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-195747P P 20000407

AB The invention disclosed in this patent document relates to transmembrane receptors, more particularly to a human G protein-coupled receptor (GPCR) for which the endogenous ligand is known, and most particularly to mutated (non-endogenous) versions of the known GPCRs. Site-specific mutation ti a lysine residue is based on an algorithmic approach and is preferred at the 16th amino acid within intracellular loop 3 (IL3) region which is a positional distance from a conserved proline residue located within the transmembrane membrane 6 (TM6) region, thereby increasing the functional second messenger activity. The mutated GPCR versions are used in screening assays for the direct identification of candidate compds. as inverse agonists, agonists, and partial agonists. A GPCR fusion protein is intended to enhance the efficacy of G protein coupling with the non-endogenous GPCR, and is preferred for screening with a non-endogenous, constitutively activated GPCR because such an approach increases the signal that is most preferably utilized in such screening techniques. This is important in facilitating a significant "signal to noise" ratio. Receptor-based assays are also described: (1) CRE-Luc reporter and (2) 8XCre-Luc reporter assays for Gs-assocd. receptors; (3) AP1 reporter and (4) SRF-Luc receptor assays for Gq-assocd. receptors.

L76 ANSWER 25 OF 30 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:114969 CAPLUS
DOCUMENT NUMBER: 134:157579
TITLE: Use of EP4 receptor ligands in the treatment of, interalia, neuropathic pain and colon cancer
INVENTOR(S): Clayton, Nicholas Maughan; Collins, Susanne Denise; Foord, Steven Michael; Giblin, Gerard Martin Paul
PATENT ASSIGNEE(S): Glaxo Group Limited, UK
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001010426	A2	20010215	WO 2000-EP7669	20000808
WO 2001010426	A3	20011220		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,

CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: GB 1999-18745 A 19990810
GB 1999-28437 A 19991201

AB The present invention relates to the use of an EP4 receptor ligand in the manuf. of a medicament for use in the treatment of neuropathic pain, colon cancer, migraine, and for increasing the latency of HIV infection. An example compd. (I) was prepd.

L76 ANSWER 26 OF 30 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:749294 CAPLUS
DOCUMENT NUMBER: 136:15585
TITLE: Distinction between relaxations induced via prostanoid EP4 and IP1 receptors in pig and rabbit blood vessels
AUTHOR(S): Jones, Robert L.; Chan, Kam-Ming
CORPORATE SOURCE: Department of Pharmacology, Faculty of Medicine, Chinese University of Hong Kong, Hong Kong, Peop. Rep. China
SOURCE: British Journal of Pharmacology (2001), 134(2), 313-324
CODEN: BJPCBM; ISSN: 0007-1188
PUBLISHER: Nature Publishing Group
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The authors' study shows that the prostacyclin analogs AFP-07 and cicaprost are moderately potent agonists for prostanoid EP4 receptors, in addn. to being highly potent IP1 receptor agonists. Both activities were demonstrated on piglet and rabbit saphenous veins, which are established EP4 prepns. On piglet saphenous vein, PGE2 was 6.1, 24, 96, 138, 168 and 285 times resp. more potent than AFP-07, cicaprost, PGI2, iloprost, carbacyclin and TEI-9063 in causing relaxation. Another prostacyclin analog taprostene did not induce max. relaxation (21-74%), and did not oppose the action of PGE2. The EP4 receptor antagonist AH 23848 (30 .mu.M) blocked relaxant responses to PGE2 (dose ratio = 8.6) to a greater extent than cicaprost (4.9) and AFP-07 (3.8) had variable effects on TEI-9063-induced relaxation (3.7) and had no effect on taprostene responses (<2.0). On rabbit saphenous vein, AH 23848 blocked the relaxant actions of PGE2, AFP-07, cicaprost, iloprost and carbacyclin to similar extents. AFP-07, cicaprost and TEI-9063 showed high IP1 relaxant potency on piglet carotid artery, rabbit mesenteric artery and guinea-pig aorta, with AFP-07 confirmed as the most potent IP1 agonist reported to date. AH 23848 did not block cicaprost-induced relaxation of piglet carotid artery. EP3 contractile systems in these prepns. can confound IP1 agonist potency estns. Caution is urged when using AFP-07 and cicaprost to characterize IP1 receptors in the presence of EP4 receptors. Taprostene may be a lead to a highly selective IP1 receptor agonist.

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L76 ANSWER 27 OF 30 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:638485 CAPLUS
DOCUMENT NUMBER: 127:315085
TITLE: Ligand binding specificities of the eight types and subtypes of the mouse prostanoid receptors expressed in Chinese hamster ovary cells
AUTHOR(S): Kiriyama, Michitaka; Ushikubi, Fumitaka; Kobayashi, Takuya; Hirata, Masakazu; Sugimoto, Yukihiko;

Narumiya, Shuh
CORPORATE SOURCE: Department of Pharmacology, Kyoto University Faculty of Medicine, Kyoto, 606, Japan
SOURCE: Br. J. Pharmacol. (1997), 122(2), 217-224
CODEN: BJPCBM; ISSN: 0007-1188
PUBLISHER: Stockton
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Eight types and subtypes of the mouse prostanoid receptor, the prostaglandin D (DP) receptor, the prostaglandin F (FP) receptor, the prostaglandin I (IP) receptor, the thromboxane A (TP) receptor and the EP1, EP2, EP3 and EP4 subtypes of the prostaglandin E receptor, were stably expressed in Chinese hamster ovary cells. Their ligand binding characteristics were examd. with thirty two prostanoids and their analogs by detg. the Ki values from the displacement curves of radioligand binding to the resp. receptors. The DP, IP and TP receptors showed high ligand binding specificity and only bound their own putative ligands with high affinity such as PGD2, BW 245C and BW 868C for DP, cicaprost, iloprost and isocarbacyclin for IP, and S-145, I-BOP and GR 32191 for TP. The FP receptor bound PGF2.alpha. and fluprostenol with Ki values of 3-4 nM. In addn., PGD2, 17-phenyl-PGE2, STA2, I-BOP, PGE2 and M&B-28767 bound to this receptor with Ki values less than 100 nM. The EP1 receptor bound 17-phenyl-PGE2, sulprostone and iloprost in addn. to PGE2 and PGE1, with Ki values of 120 nM. The EP2 and EP4 receptors showed similar binding profiles. They bound 16,16-dimethyl PGE2 and 11-deoxy-PGE1 in addn. to PGE2 and PGE1. The two receptors were discriminated by butaprost, AH-13205 and AH-6809 that bound to the EP2 receptor but not to the EP4 receptor, and by 1-OH-PGE1 that bound to the EP4 but not to the EP2 receptor. The EP3 receptor showed the broadest binding profile, and bound sulprostone, M&B-28767, GR 63799X, 11-deoxy-PGE1, 16,16-dimethyl-PGE2 and 17-phenyl-PGE2, in addn. to PGE2 and PGE1, with Ki values of 0.6-3.7 nM. In addn., three IP ligands, iloprost, carbacyclin and isocarbacyclin, and one TP ligand, STA2, bound to this receptor with Ki values comparable to the Ki values of these compds. for the IP and TP receptors, resp. 8-Epi-PGF2.alpha. showed only weak binding to the IP, TP, FP, EP2 and EP3 receptor at 10 .mu.M concn.

L76 ANSWER 28 OF 30 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 2001132117 EMBASE
TITLE: Knockout of the murine prostaglandin EP(2) receptor impairs Osteoclastogenesis in vitro.
AUTHOR: Li X.; Okada Y.; Pilbeam C.C.; Lorenzo J.A.; Kennedy C.R.J.; Breyer R.M.; Raisz L.G.
CORPORATE SOURCE: Dr. L.G. Raisz, Division of Endocrinology, Metabolism MC1850, Univ. of Connecticut Health Center, Farmington, CT 06030, United States. raisz@nso.uchc.edu
SOURCE: Endocrinology, (2000) 141/6 (2054-2061).
Refs: 39
ISSN: 0013-7227 CODEN: ENDOAO
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 003 Endocrinology
029 Clinical Biochemistry
033 Orthopedic Surgery
LANGUAGE: English
SUMMARY LANGUAGE: English

AB Prostaglandin E(2)(PGE(2)) stimulates the formation of osteoclast-like tartrate-resistant acid phosphatase-positive multinucleated cells (TRAP + MNC) in vitro. This effect likely results from stimulation of adenylyl cyclase, which is mediated by two PGE(2) receptors, designated EP(2) and **EP(4)**. We used cells from mice in which the EP(2) receptor had been disrupted to test its role in the formation of TRAP + MNC. EP(2) heterozygous (.+-.) mice in a C57BL/6 x 129/SvEv background

were bred to produce homozygous null (EP(2) -/-) and wild-type (EP(2) +/+) mice. PGE(2), PTH, or 1,25 dihydroxyvitamin D increased TRAP+ MNC in 7-day cultures of bone marrow cells from EP(2) +/+ mice. In cultures from EP(2) -/- animals, responses to PGE(2), PTH, and 1,25 dihydroxyvitamin D were reduced by 86%, 58%, and 50%, respectively. A selective **EP(4)** receptor antagonist (**EP(4)**RA) further inhibited TRAP + MNC formation in both EP(2) +/+ and EP(2) -/- cultures. In cocultures of spleen and calvarial osteoblastic cells, the response to PGE(2) or PTH was reduced by 92% or 85% when both osteoblastic cells and spleen cells were from EP(2) -/- mice, by 88% or 68% when only osteoblastic cells were from EP(2) -/- mice and by 58% or 35% when only spleen cells were from EP(2) -/- mice. PGE(2) increased receptor activator of nuclear factor (NF)-kB ligand (RANKL) messenger RNA expression in osteoblastic and bone marrow cell cultures from EP(2) +/+ mice 2-fold but had little effect on cells from EP(2) -/- mice. Spleen cells cultured with RANKL and macrophage colony stimulating factor produced TRAP+ MNC. PGE(2) increased the number of TRAP+ MNC in spleen cell cultures from EP(2) +/+ mice but not in cultures from EP(2) -/- mice. **EP(4)**RA had no effect on the PGE(2) response in spleen cell cultures. PGE(2) decreased the expression of messenger RNA for granulocyte-macrophage colony stimulating factor in spleen cell cultures from EP(2) +/+ mice but had little effect on cells from EP(2) -/- mice. These data demonstrate that the prostaglandin EP(2) receptor plays a role in the formation of osteoclast-like cells in vitro. A major defect in EP(2) -/- mice appears to be in the capacity of osteoblastic cells to stimulate osteoclast formation. In addition, there appears to be a defect in the response of cells of the osteoclastic lineage to PGE(2) in EP(2) -/- mice.

L76 ANSWER 29 OF 30 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 2000291694 EMBASE
TITLE: Novel EP receptor ligands.
SOURCE: Expert Opinion on Therapeutic Patents, (2000) 10/8 (1297-1300).
Refs: 7
ISSN: 1354-3776 CODEN: EOTPEG
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 030 Pharmacology
037 Drug Literature Index
039 Pharmacy
LANGUAGE: English
SUMMARY LANGUAGE: English
AB These patents disclose two classes of selective EP receptor ligands. That from Fujisawa claims a series of 4,5-biphenyloxazole derivatives that are indicated to be selective **EP4** receptor antagonists. They are claimed to be useful in the treatment of glomerulonephritis. The application from Merck claims a series of 1,2-biphenylene derivatives, which are claimed to be EP (probably EP1) receptor antagonists useful in the treatment of pain and inflammatory diseases.

L76 ANSWER 30 OF 30 WPIDS COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2001-451628 [48] WPIDS
DOC. NO. CPI: C2001-136386
TITLE: New peptides are **prostaglandin** E2 receptor antagonists, useful in the treatment of abnormalities in glomerular filtration, patent ductus arteriosus and osteoporosis.
DERWENT CLASS: B04
INVENTOR(S): CHEMTOB, S; PERI, K G
PATENT ASSIGNEE(S): (HOPI-N) HOPITAL SAINTE-JUSTINE
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001042281	A1	20010614	(200148)*	EN	44

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2001021340 A 20010618 (200161)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001042281	A1	WO 2000-CA1445	20001206
AU 2001021340	A	AU 2001-21340	20001206

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001021340	A	Based on	WO 200142281

PRIORITY APPLN. INFO: US 1999-455483 19991206

AB WO 200142281 A UPAB: 20010829

NOVELTY - Peptides (I) are new.

DETAILED DESCRIPTION - Peptides of formula Y1-R1-R2-R3-R4-R5-R6-R7-R8-Z1 (I) are new.

INDEPENDENT CLAIMS are also included for:

(1) a compound of formula Y2-AA1 -AA2 -AA3 -AA4 -AA5 -AA6 -AA7 -AA8-Z2 (II);

(2) the use of (II) in an assay comprising:

(a) culturing cells or tissue expressing the receptor naturally or recombinantly;

(b) treating the cultured cells or tissues with (II) in the presence or absence of a known concentration of an agonist of the receptor;

(c) measuring one or more of the biochemical and physiological consequences of the signal transmission from the receptor, the consequences being selected from the group consisting of GTP binding and hydrolysis by G alpha proteins, cyclic adenosine monophosphate synthesis, alterations in cell calcium, smooth muscle contraction or dilation, cell growth and/or differentiation, altered gene expression and smooth muscle contraction or dilation; and

(3) an assay kit containing (II).

Y1,Y2 = attached to N-terminus of the peptide and selected from proton, a sequence of 1-3 amino acids, or a blocking group such as a carbamate group, an acyl group composed of a hydrophobic moiety such as cyclohexyl, Ph, benzyl, short chain linear and branched alkyl groups of 1-8 C;

R1 = Val, Ala, Ile, Gln, Leu or Arg;

R2 = Ala, Ile, Phe, Arg or Leu;

R3 = Pro, Thr, Ser, Tyr, Leu or Val;

R4 = Met, Ala, Gly, Ser, Val or Ile;

R5 = Thr, pro, Tyr, Leu, Gly or Gln;

R6 = Val, Cys, Ile, Gly, Glu or Ser;

R7 = Val, Cys, Ile, Gly, Glu or Ser;

R7 = Pro, val, Cys, leu, Glu or Asn;

R8 = Ser, Leu, Thr or Ala;

Z1, Z2 = attached to carboxy-terminus of the peptide and selected from proton, NH2, 1-3 aminoacids as well as arylalkyl amines and aliphatic amines possessing short chain linear and branched 1-8C alkyl;

AA1 = no residue, Ile, Leu, Phe or related alpha-amino acids with

hydrophobic side-chains, arylalkyl amines;

AA2 = no residue, Ile, Leu, Phe or related alpha-amino acids with hydrophobic side-chains, arylalkyl amines ;

AA3 = no residue, Ala, Ser, Thr or other related alpha amino acids with side chains containing OH or H-bond forming groups;

AA4 = no residue, Ser, Thr or other related alpha amino acids with side chains containing OH or H-bond forming groups;

AA5 = Ala, Tyr, Phe or other related alpha amino acids with side chains containing benzoyl, phenolic groups and aryalkyl amines;

AA6 = Glu, Gln, Asp, Asn or related alpha amino acids with side chains containing charged or H-bond accepting groups;

AA7 = no residue, Ala, Cys, Ser, Thr or related alpha amino acids with side chains containing sulfhydryl , OH groups; and

AA8 = no residue, Ile, Ala, Leu, Phe and other alpha-amino acids with hydrophobic side-chains, arylalkyl amines (benzylamine, phenylethylamine, phenylpropylamine) and aliphatic amines with short chain linear and branched 1-8C alkyl groups.

ACTIVITY - Osteopathic; urinary; renal.

MECHANISM OF ACTION - Prostaglandin E2 receptor subtype EP4 antagonist.

A test was carried out to evaluate the effects of a compound of the invention (PHG213) on glomerular filtration rate and urinary volume in normal rats. The antagonist PHG 213 was infused in saline i.v. at 6 micro molkg/h for one hour before the start of the first urine collection. It was found that the mean blood pressure was not significantly altered by the peptide. Urinary flow rate dramatically increased 2.3 fold and glomerular filtration rate increased by 157 %. These alterations in urine output are indicative of the EP4 receptor antagonist effects in the glomerulus where it increased filtration and in collecting duct where it inhibited re-absorption, thus giving higher urine output.

USE - (II) are used to improve glomerular filtration and/or urine output and to treat end stage renal disease or acute renal failure. They can be used to close ductus arteriosus (DA) or to prevent bone mineral loss (all claimed). They are also used in assays to validate the function of unknown ligands, to identify and localize the receptor in cells and tissues.

ADVANTAGE - (II) are capable of inhibiting at least one functional consequence of prostaglandin E2 receptor subtype EP4 (claimed).

Dwg.0/5

```
=> fil capl; d que l22; s l22 not l24; fil medl; d que l34; s l34 not l75; fil embase; d
que l44; fil wpids; d que l59; s l59 not l56; fil drugu; d que l74
FILE 'CAPLUS' ENTERED AT 14:53:59 ON 18 MAR 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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```


FILE COVERS 1907 - 18 Mar 2002 VOL 136 ISS 12
FILE LAST UPDATED: 17 Mar 2002 (20020317/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the CAS files between 12/27/01 and 1/23/02. As of 1/23/02, the situation has been resolved. Searches and/or SDIs in the H/Z/CA/CAplus files incorporating CAS Registry Numbers with the P indicator executed between 12/27/01 and 1/23/02 may be incomplete. See the NEWS message on this topic for more information.

```
L6          1586 SEA FILE=CAPLUS ABB=ON  PROSTANOID RECEPTORS+OLD/CT
L7           412 SEA FILE=CAPLUS ABB=ON  EP4
L8           230 SEA FILE=CAPLUS ABB=ON  L6(L)L7
L9        114438 SEA FILE=CAPLUS ABB=ON  LIGAND#/OBI
L10        37835 SEA FILE=CAPLUS ABB=ON  AGONIST#/OBI
L12        53722 SEA FILE=CAPLUS ABB=ON  PROSTAGLANDIN#/OBI
L13          160 SEA FILE=CAPLUS ABB=ON  L12(L)L7
L14           37 SEA FILE=CAPLUS ABB=ON  (L8 OR L13)(L)(L9 OR L10)
L15         1685 SEA FILE=CAPLUS ABB=ON  ALOPECIA/CT
L16         2886 SEA FILE=CAPLUS ABB=ON  HAIR(L)(LOSS OR GROW?)/OBI
L17          709 SEA FILE=CAPLUS ABB=ON  BALD?/OBI
L18        15300 SEA FILE=CAPLUS ABB=ON  HAIR PREPARATIONS+NT/CT
L19        30428 SEA FILE=CAPLUS ABB=ON  HAIR/OBI
L20        97366 SEA FILE=CAPLUS ABB=ON  62/SC,SX
L21        37765 SEA FILE=CAPLUS ABB=ON  COSMETIC#/OBI
L22            3 SEA FILE=CAPLUS ABB=ON  L14 AND (L15 OR L16 OR L17 OR L18 OR
                 L19 OR L20 OR L21)
```

-Section code - Essential oils & cosmetics-

```
L77            3 L22 NOT L24
```

previously printed

```
FILE 'MEDLINE' ENTERED AT 14:54:00 ON 18 MAR 2002
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FILE LAST UPDATED: 17 MAR 2002 (20020317/UP). FILE COVERS 1958 TO DATE.

On April 22, 2001, MEDLINE was reloaded. See HELP RLOAD for details.

MEDLINE now contains IN-PROCESS records. See HELP CONTENT for details.

MEDLINE is now updated 4 times per week. A new current-awareness alert frequency (EVERYUPDATE) is available. See HELP UPDATE for more information.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2001 vocabulary. Enter HELP THESAURUS for details.

The OLDMEDLINE file segment now contains data from 1958 through 1965. Enter HELP CONTENT for details.

Left, right, and simultaneous left and right truncation are available in the Basic Index. See HELP SFIELDS for details.

THIS FILE CONTAINS CAS REGISTRY NUMBERS FOR EASY AND ACCURATE SUBSTANCE IDENTIFICATION.

```
L25          745 SEA FILE=MEDLINE ABB=ON  RECEPTORS, PROSTAGLANDIN E/CT
L26          200 SEA FILE=MEDLINE ABB=ON  L25 AND EP4
L32         6017 SEA FILE=MEDLINE ABB=ON  ALOPECIA+NT/CT
L33        14531 SEA FILE=MEDLINE ABB=ON  HAIR+NT/CT
L34            1 SEA FILE=MEDLINE ABB=ON  L26 AND (L32 OR L33)
```

L78 1 L34 NOT L75 previously printed

FILE 'EMBASE' ENTERED AT 14:54:01 ON 18 MAR 2002
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FILE COVERS 1974 TO 14 Mar 2002 (20020314/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
L35          265 SEA FILE=EMBASE ABB=ON  PROSTAGLANDIN E RECEPTOR/CT
L36            1 SEA FILE=EMBASE ABB=ON  PROSTAGLANDIN EP 4 RECEPTOR/CT
L37           10 SEA FILE=EMBASE ABB=ON  PROSTAGLANDIN EP4 RECEPTOR/CT
L39         3163 SEA FILE=EMBASE ABB=ON  HAIR GROWTH/CT OR HAIR LOSS/CT
L40        11728 SEA FILE=EMBASE ABB=ON  ALOPECIA+NT/CT
L41          462 SEA FILE=EMBASE ABB=ON  EP4 OR EP 4
L42          133 SEA FILE=EMBASE ABB=ON  (L35 AND L41) OR L36 OR L37
L44            0 SEA FILE=EMBASE ABB=ON  L42 AND (L39 OR L40)
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FILE 'WPIDS' ENTERED AT 14:54:01 ON 18 MAR 2002
COPYRIGHT (C) 2002 DERWENT INFORMATION LTD

FILE LAST UPDATED: 13 MAR 2002 <20020313/UP>
MOST RECENT DERWENT UPDATE 200217 <200217/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> SDI'S MAY BE RUN ON EVERY UPDATE OR MONTHLY AS OF JUNE 2001.

(EVERY UPDATE IS THE DEFAULT). FOR PRICING INFORMATION
SEE HELP COST <<<

>>> FOR UP-TO-DATE INFORMATION ABOUT THE DERWENT CHEMISTRY
RESOURCE, PLEASE VISIT
http://www.derwent.com/chemistryresource/index.html <<<

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES,
SEE http://www.derwent.com/dwpi/updates/dwpicov/index.html <<<

```
L51        5835 SEA FILE=WPIDS ABB=ON  (PROSTAGLANDIN# OR PROSTANOID#)
L52          47 SEA FILE=WPIDS ABB=ON  EP4 OR EP 4
L54       38349 SEA FILE=WPIDS ABB=ON  BALD? OR ?ALOPEC? OR HAIR
L59           1 SEA FILE=WPIDS ABB=ON  L51 AND L52 AND L54
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L79 1 L59 NOT (L56) previously printed

```
FILE 'DRUGU' ENTERED AT 14:54:02 ON 18 MAR 2002
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FILE LAST UPDATED: 18 MAR 2002    <20020318/UP>
>>>  DERWENT DRUG FILE (SUBSCRIBER)  <<<

>>>  SDI'S MAY BE RUN WEEKLY OR MONTHLY AS OF JUNE 2001.  <<<
>>>  (WEEKLY IS THE DEFAULT). FOR PRICING INFORMATION     <<<
>>>  SEE HELP COST                                        <<<

>>>  FILE COVERS 1983 TO DATE  <<<
>>>  THESAURUS AVAILABLE IN /CT  <<<


L64       50207 SEA FILE=DRUGU ABB=ON  (PROSTAGLANDIN# OR PROSTANOID#)
L65         102 SEA FILE=DRUGU ABB=ON  EP4 OR EP 4
L69       11485 SEA FILE=DRUGU ABB=ON  BALD? OR ?ALOPEC? OR HAIR
L70           2 SEA FILE=DRUGU ABB=ON  ANTIALOPEC?
L71          50 SEA FILE=DRUGU ABB=ON  L64 AND L65
L74           0 SEA FILE=DRUGU ABB=ON  L71 AND (L69 OR L70)


=> dup rem l78,l77,l59
FILE 'MEDLINE' ENTERED AT 14:54:31 ON 18 MAR 2002

FILE 'CAPLUS' ENTERED AT 14:54:31 ON 18 MAR 2002
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FILE 'WPIDS' ENTERED AT 14:54:31 ON 18 MAR 2002
COPYRIGHT (C) 2002 DERWENT INFORMATION LTD
PROCESSING COMPLETED FOR L78
PROCESSING COMPLETED FOR L77
PROCESSING COMPLETED FOR L59
L80           4 DUP REM L78 L77 L59 (1 DUPLICATE REMOVED)
                ANSWER '1' FROM FILE MEDLINE
                ANSWERS '2-4' FROM FILE CAPLUS

=> d ibib ab 1-4
```

L80 ANSWER 1 OF 4 MEDLINE
ACCESSION NUMBER: 2002060591 MEDLINE
DOCUMENT NUMBER: 21645891 PubMed ID: 11785955
TITLE: Expression of prostaglandin E(2) receptor subtypes in mouse hair follicles.
AUTHOR: Torii Eiko; Segi Eri; Sugimoto Yukihiko; Takahashi Kenzo; Kabashima Kenji; Ikai Kohichi; Ichikawa Atsushi
CORPORATE SOURCE: Department of Physiological Chemistry, Faculty of Pharmaceutical Sciences, Kyoto University, Sakyo-ku, Kyoto, 606-8501, Japan.
SOURCE: BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (2002 Jan 18) 290 (2) 696-700.
Journal code: 0372516. ISSN: 0006-291X.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200202
ENTRY DATE: Entered STN: 20020125
Last Updated on STN: 20020212
Entered Medline: 20020211

AB We investigated the mRNA distribution of the prostaglandin (PG) E(2) receptor subtypes and cyclooxygenases (COXs) in hair follicles of the mouse dorsal skin. In the 3-week hair follicles, which are in the anagen phase, EP3 and **EP4** mRNA were expressed in the dermal papilla cells and the outer root sheath cells located in the hair bulb region, respectively. In the 8-week hair follicles, which are in the telogen phase, the signals for both EP3 and **EP4** mRNAs had disappeared. To study the hair cycle-dependent expression of mRNAs for the EPs and COXs, an area of dorsal hair was depilated from 8-week-old mice. On days 8 and 12 after depilation, EP3 and **EP4** mRNA were reexpressed in the dermal papilla cells and the outer root sheath cells, and the induction of COX-2 mRNA was also observed in the outer root sheath cells, the upper area of **EP4** expression site. These results suggest that EP3 and **EP4** receptors may involve in the development and regrowth of the hair follicles.

L80 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
ACCESSION NUMBER: 2001:730519 CAPLUS
DOCUMENT NUMBER: 135:267274
TITLE: **prostaglandin EP4** receptor **agonists** for controlling **hair growth**
INVENTOR(S): Kumagai, Hiroki; Yamada, Naohiro; Hayashi, Ryoji; Mori, Takeshi; Isogaya, Masafumi
PATENT ASSIGNEE(S): Toray Industries, Inc., Japan
SOURCE: PCT Int. Appl., 79 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001072268	A1	20011004	WO 2001-JP2756	20010330
W: AU, CA, CN, JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1186287	A1	20020313	EP 2001-917702	20010330
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: JP 2000-97542 A 20000331

WO 2001-JP2756 W 20010330
OTHER SOURCE(S): MARPAT 135:267274
AB Disclosed are agents for controlling hair growth or hair formation while showing little side effect. These agents contain 5,6,7-trinor-4,8-inter-m-phenylene PGI2 derivs. as prostaglandin EP4 receptor agonists. Hair growth-promoting activities of the compds. were tested with rabbits.
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L80 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:87137 CAPLUS
DOCUMENT NUMBER: 136:139631
TITLE: Use of EP-3 prostaglandins receptor antagonists as **cosmetic** agent for reducing or stopping **hair loss**
INVENTOR(S): Michelet, Jean-Francois; Mahe, Yann; Bernard, Bruno
PATENT ASSIGNEE(S): L'oreal, Fr.
SOURCE: Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1175892	A1	20020130	EP 2001-401976	20010723
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
FR 2812192	A1	20020201	FR 2000-9985	20000728

PRIORITY APPLN. INFO.: FR 2000-9985 A 20000728
AB EP-3 prostaglandins receptor antagonists are used for reducing or stopping hair growth in cosmetic compns. A lotion contained EP-3 prostaglandin receptor antagonist 0.5, propylene glycol 20, ethanol 95.degree. 30, and water q.s. 100 g.
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L80 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:87136 CAPLUS
DOCUMENT NUMBER: 136:139601
TITLE: Use of non-prostanoic agonists of EP-2 and/or EP-4 prostaglandin receptors as **cosmetic** agent for reducing or stopping **hair loss**
INVENTOR(S): Michelet, Jean-Francois; Mahe, Yann; Bernard, Bruno
PATENT ASSIGNEE(S): L'oreal, Fr.
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1175891	A1	20020130	EP 2001-401975	20010723
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
FR 2812190	A1	20020201	FR 2000-9981	20000728

PRIORITY APPLN. INFO.: FR 2000-9981 A 20000728
AB Non-prostanoic agonists of EP-2 and/or EP-4 prostaglandin receptors are used for reducing or stopping hair growth in cosmetic compns. A lotion contained non-prostanoic agonist of EP-2 prostaglandin receptors 0.5,

propylene glycol 20, ethanol 95.degree. 30, and water q.s. 100 g.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
=> fil reg; d stat que l86; fil capl; d que nos l87;fil uspatf; d que nos l88
FILE 'REGISTRY' ENTERED AT 15:27:48 ON 18 MAR 2002
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STRUCTURE FILE UPDATES:   17 MAR 2002  HIGHEST RN 401569-84-4
DICTIONARY FILE UPDATES:  17 MAR 2002  HIGHEST RN 401569-84-4

TSCA INFORMATION NOW CURRENT THROUGH July 7, 2001

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

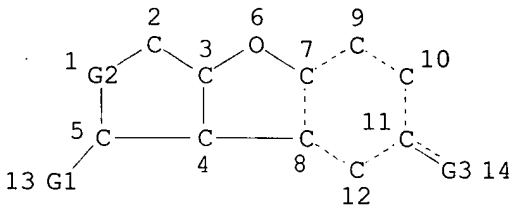
Crossover limits have been increased.  See HELP CROSSOVER for details.

Calculated physical property data is now available.  See HELP PROPERTIES
for more information.  See STNote 27, Searching Properties in the CAS
Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

The P indicator for Preparations was not generated for all of the
CAS Registry Numbers that were added to the H/Z/CA/CAplus files between
12/27/01 and 1/23/02.  Use of the P indicator in online and SDI searches
during this period, either directly appended to a CAS Registry Number
or by qualifying an L-number with /P, may have yielded incomplete results.
As of 1/23/02, the situation has been resolved.  Also, note that searches
conducted using the PREP role indicator were not affected.

Customers running searches and/or SDIs in the H/Z/CA/CAplus files
incorporating CAS Registry Numbers with the P indicator between 12/27/01
and 1/23/02, are encouraged to re-run these strategies.  Contact the
CAS Help Desk at 1-800-848-6533 in North America or 1-614-447-3698,
worldwide, or send an e-mail to help@cas.org for further assistance or to
receive a credit for any duplicate searches.

L81                 STR
```



CH2—CH2 @15 16 C≡C @17 18 CH≡C @19 20

CH—O @21 22 Ak @23 CH=O @24 25

full file search done on this structure

```
VAR G1=15/17/19
VAR G2=CH2/21
VAR G3=H/23/X/OME/NO2/24
NODE ATTRIBUTES:
CONNECT IS E3  RC AT   9
CONNECT IS E1  RC AT  23
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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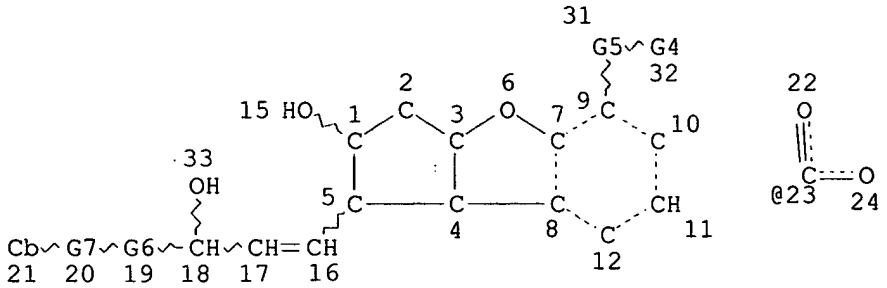
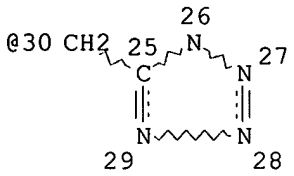
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 25

STEREO ATTRIBUTES: NONE
L83 1411 SEA FILE=REGISTRY SSS FUL L81 = Part 2
L84 STR





subset search done on this structure

VAR G4=23/30
REP G5=(0-2) CH2
REP G6=(0-1) CH2
REP G7=(0-6) C
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 31

STEREO ATTRIBUTES: NONE
L86 94 SEA FILE=REGISTRY SUB=L83 SSS FUL L84

100.0% PROCESSED 1224 ITERATIONS 94 ANSWERS
SEARCH TIME: 00.00.08

FILE 'CAPLUS' ENTERED AT 15:27:49 ON 18 MAR 2002

FILE COVERS 1907 - 18 Mar 2002 VOL 136 ISS 12
FILE LAST UPDATED: 17 Mar 2002 (20020317/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the CAS files between 12/27/01 and 1/23/02. As of 1/23/02, the situation has been resolved. Searches and/or SDIs in the H/Z/CA/CAplus files incorporating CAS Registry Numbers with the P indicator executed between 12/27/01 and 1/23/02 may be incomplete. See the NEWS message on this topic for more information.

```
L81             STR
L83        1411 SEA FILE=REGISTRY SSS FUL L81
L84             STR
L86          94 SEA FILE=REGISTRY SUB=L83 SSS FUL L84
L87           7 SEA FILE=CAPLUS ABB=ON  L86
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FILE 'USPATFULL' ENTERED AT 15:27:49 ON 18 MAR 2002
CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 14 Mar 2002 (20020314/PD)
FILE LAST UPDATED: 14 Mar 2002 (20020314/ED)
HIGHEST GRANTED PATENT NUMBER: US6357047
HIGHEST APPLICATION PUBLICATION NUMBER: US2002032920
CA INDEXING IS CURRENT THROUGH 14 Mar 2002 (20020314/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 14 Mar 2002 (20020314/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2001
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2001

>>> USPAT2 is now available. USPATFULL contains full text of the <<<
>>> original, i.e., the earliest published granted patents or <<<
>>> applications. USPAT2 contains full text of the latest US <<<
>>> publications, starting in 2001, for the inventions covered in <<<
>>> USPATFULL. A USPATFULL record contains not only the original <<<
>>> published document but also a list of any subsequent <<<
>>> publications. The publication number, patent kind code, and <<<
>>> publication date for all the US publications for an invention <<<
>>> are displayed in the PI (Patent Information) field of USPATFULL <<<
>>> records and may be searched in standard search fields, e.g., /PN, <<<
>>> /PK, etc. <<<

>>> USPATFULL and USPAT2 can be accessed and searched together <<<
>>> through the new cluster USPATALL. Type FILE USPATALL to <<<
>>> enter this cluster. <<<
>>> <<<
>>> Use USPATALL when searching terms such as patent assignees, <<<
>>> classifications, or claims, that may potentially change from <<<
>>> the earliest to the latest publication. <<<

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
L81             STR
L83        1411 SEA FILE=REGISTRY SSS FUL L81
L84             STR
L86          94 SEA FILE=REGISTRY SUB=L83 SSS FUL L84
L88           2 SEA FILE=USPATFULL ABB=ON  L86


=> dup rem l87,l88
FILE 'CAPLUS' ENTERED AT 15:27:53 ON 18 MAR 2002
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FILE 'USPATFULL' ENTERED AT 15:27:53 ON 18 MAR 2002
CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)
PROCESSING COMPLETED FOR L87
PROCESSING COMPLETED FOR L88
L90             9 DUP REM L87 L88 (0 DUPLICATES REMOVED)
                  ANSWERS '1-7' FROM FILE CAPLUS
                  ANSWERS '8-9' FROM FILE USPATFULL

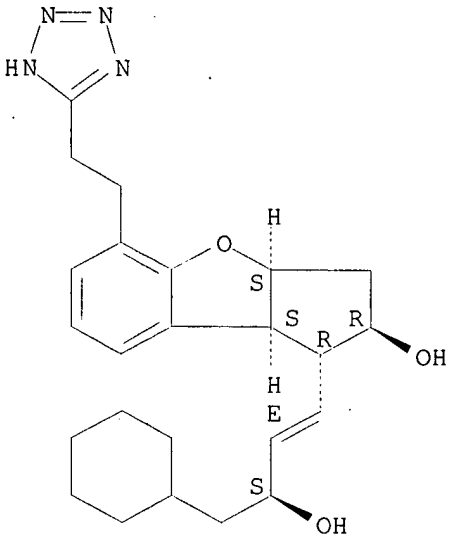
=> d ibib abs hitstr l90 1-9; fil cao; d que nos l89;fil hom

L90  ANSWER 1 OF 9  CAPLUS  COPYRIGHT 2002 ACS
ACCESSION NUMBER:         2001:730519  CAPLUS
DOCUMENT NUMBER:          135:267274
TITLE:                    prostaglandin EP4 receptor agonists for controlling
                          hair growth
INVENTOR(S):              Kumagai, Hiroki; Yamada, Naohiro; Hayashi, Ryoji;
                          Mori, Takeshi; Isogaya, Masafumi
PATENT ASSIGNEE(S):       Toray Industries, Inc., Japan
SOURCE:                   PCT Int. Appl., 79 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
     WO 2001072268      A1   20011004       WO 2001-JP2756   20010330
         W:  AU, CA, CN, JP, KR, US
         RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
             PT, SE, TR
     EP 1186287         A1   20020313       EP 2001-917702   20010330
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI
PRIORITY APPLN. INFO.:                    JP 2000-97542    A  20000331
                                          WO 2001-JP2756   W  20010330
OTHER SOURCE(S):          MARPAT 135:267274
AB   Disclosed are agents for controlling hair growth or hair formation while
     showing little side effect.  These agents contain 5,6,7-trinor-4,8-inter-m-
     phenylene PGI2 derivs. as prostaglandin EP4 receptor agonists.  Hair
     growth-promoting activities of the compds. were tested with rabbits.
IT   267223-02-9 295359-15-8 364064-04-0
     364064-07-3
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); BUU (Biological use, unclassified); BIOL (Biological
     study); USES (Uses)
        (prostaglandin EP4 receptor agonists for controlling hair growth)
RN   267223-02-9  CAPLUS
CN   1H-Cyclopenta[b]benzofuran-2-ol, 1-[(1E,3S)-4-cyclohexyl-3-hydroxy-1-
```

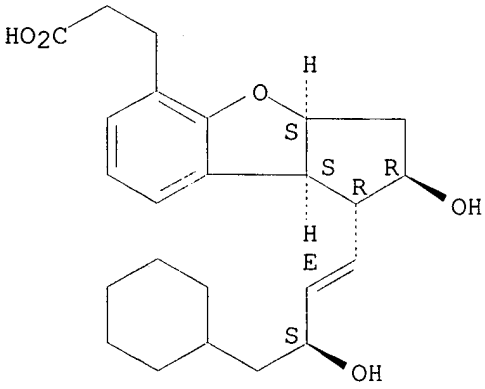
butenyl]-2,3,3a,8b-tetrahydro-5-[2-(1H-tetrazol-5-yl)ethyl]-, (1R,2R,3aS,8bS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



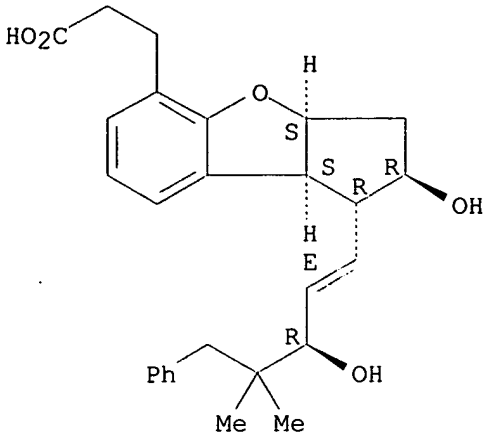
RN 295359-15-8 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[(1E,3S)-4-cyclohexyl-3-hydroxy-1-butenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, (1R,2R,3aS,8bS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



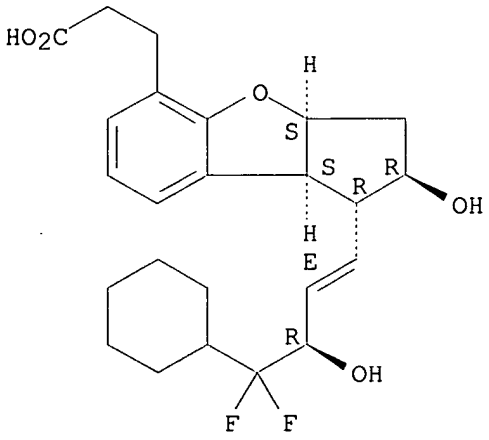
RN 364064-04-0 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[(1E,3R)-3-hydroxy-4,4-dimethyl-5-phenyl-1-pentenyl]-, (1R,2R,3aS,8bS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 364064-07-3 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[(1E,3R)-4-cyclohexyl-4,4-difluoro-3-hydroxy-1-butenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, (1R,2R,3aS,8bS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L90 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:666628 CAPLUS
DOCUMENT NUMBER: 133:247701
TITLE: Prostaglandin EP4 receptor agonist and treatment method
INVENTOR(S): Kumagai, Hiroki; Ochi, Yasuo; Hayashi, Ryoji
PATENT ASSIGNEE(S): Toray Industries, Inc., Japan
SOURCE: PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2000054808	A1	20000921	WO 2000-JP1556	20000315
W: CA, CN, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1080728	A1	20010307	EP 2000-909634	20000315
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: JP 1999-69696 A 19990316
WO 2000-JP1556 W 20000315

OTHER SOURCE(S): MARPAT 133:247701

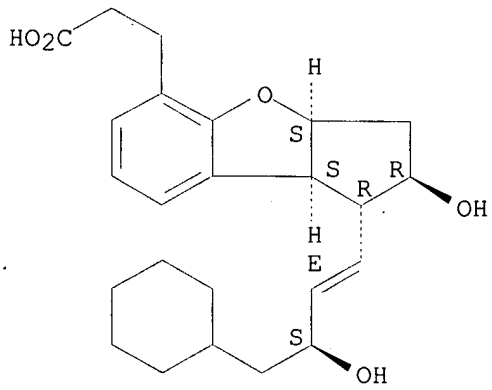
AB Provided is a prostaglandin EP4 receptor agonist contg. as the active ingredient a prostaglandin I2 deriv. This compd. binds strongly to prostaglandin EP4 receptor, which makes it useful as a pharmacol. tool for clarifying physiol. functions mediated by prostaglandin EP4 receptor or as a drug to be used in preventing/treating diseases in which prostaglandin EP4 receptor participates.

IT **295359-15-8**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prostaglandin EP4 receptor agonist for treating EP4 receptor-related diseases)

RN 295359-15-8 CAPLUS

CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[(1E,3S)-4-cyclohexyl-3-hydroxy-1-butenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, (1R,2R,3aS,8bS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L90 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:291017 CAPLUS
DOCUMENT NUMBER: 132:321762
TITLE: Preparation of 5,6,7-trinor-4,8-inter-m-phenylene PGI2 derivatives and drugs containing the same
INVENTOR(S): Wakita, Hisanori; Yamada, Naohiro; Hatakeyama, Hitoshi; Ishigaki, Takeshi; Hirano, Noriyuki; Mori, Takeshi
PATENT ASSIGNEE(S): Toray Industries, Inc., Japan
SOURCE: PCT Int. Appl., 212 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

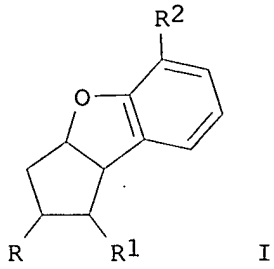
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000024727	A1	20000504	WO 1999-JP5854	19991022
W: CN, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1044972	A1	20001018	EP 1999-949380	19991022
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

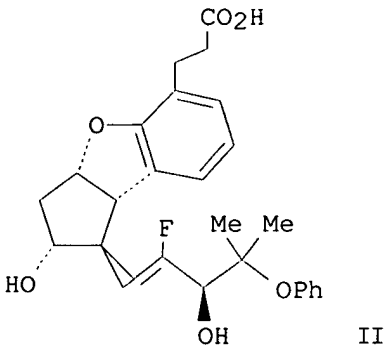
PRIORITY APPLN. INFO.: JP 1998-320014 A 19981023
WO 1999-JP5854 W 19991022

OTHER SOURCE(S): MARPAT 132:321762

GI



I



II

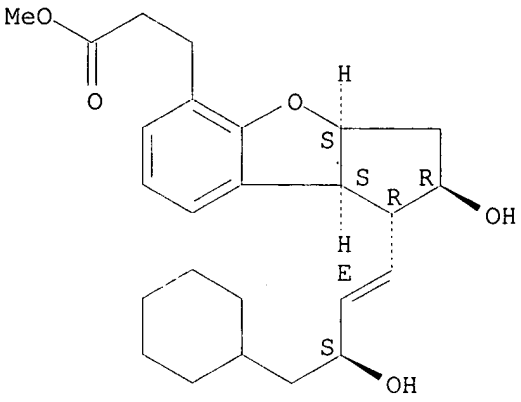
AB Title compds. [I; R = CH3CO2, OH, (CH3)3CSi(CH3)2O, THPO; R1 = CH:CFCOC(CH3)2OC6H5, CH:CFCHOHC(CH3)2OC6H5, CH:CClCOC(CH3)2OC6H5, CH:CClCHOHC(CH3)2OC6H5, CH:CBrCO(CH2)4CH3, CH:CBrCHOH(CH2)4CH3, CH:CHCH(OSi(CH3)2C(CH3)3)C(CH3)2OC6H5, CH:CHCH(OTHP)C(CH3)2OC6H5, ; R2 = CH3OCOCH2CH2, HOOCCH2CH2, HOC(CH3)2CH2CH2, HCOCH2CH2, HOCH(CH3)(CH2)2, CH3OCOCH(CH3)CH2, HOOCCH(CH3)CH2, HOCH2CH(CH3)CH2, NCCH2CH2, CH3O(CH2)3, N3(CH2)3, H2N(CH2)3, CH3SO2NH(CH2)3, C6H5SO2NH(CH2)3, CH3OP(:O)OHCH2CH2, CH3(CH2)2,F(CH2)3, (CH3O)2P(:O)CH2CH2, CH3OCOCH2S; etc], salts, and stereoisomers are prepd. as anti-helicobacter agents, platelet activation, and cervical maturation agents. Thus, the title compd. II was prepd. and tested.

IT **267223-83-6**
RL: RCT (Reactant)
(prepn. of PGI2 derivs. as drugs)

RN 267223-83-6 CAPLUS

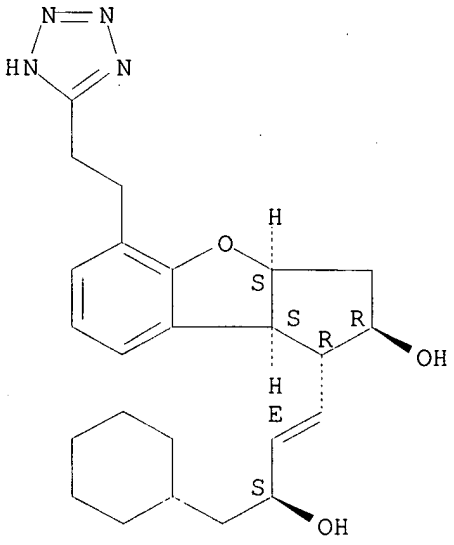
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[(1E,3S)-4-cyclohexyl-3-hydroxy-1-butenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, (1R,2R,3aS,8bS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



IT **267223-02-9P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of PGI2 derivs. as drugs)
RN 267223-02-9 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-2-ol, 1-[(1E,3S)-4-cyclohexyl-3-hydroxy-1-butenyl]-2,3,3a,8b-tetrahydro-5-[2-(1H-tetrazol-5-yl)ethyl]-, (1R,2R,3aS,8bS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L90 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:219990 CAPLUS
DOCUMENT NUMBER: 130:232851
TITLE: Prostaglandins for cervical canal maturing agent
INVENTOR(S): Ochi, Yasuo; Yamada, Naohiro; Wakita, Hisanori; Moriyama, Masami
PATENT ASSIGNEE(S): Toray Industries, Inc., Japan
SOURCE: PCT Int. Appl., 27 pp.

Searched by Barb O'Bryen, STIC 308-4291

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9913881	A1	19990325	WO 1998-JP4165	19980916
W: CA, CN, JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 970697	A1	20000112	EP 1998-943010	19980916
R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				

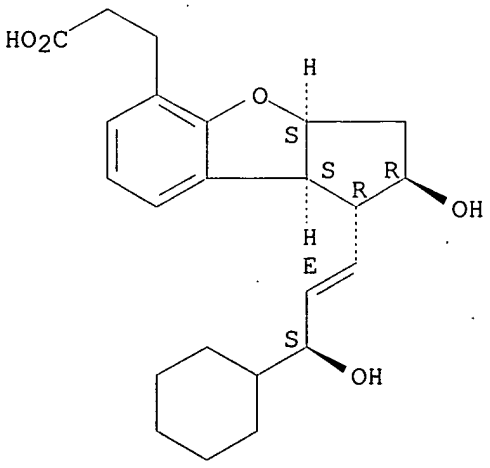
PRIORITY APPLN. INFO.: JP 1997-252505 19970917
WO 1998-JP4165 19980916
OTHER SOURCE(S): MARPAT 130:232851

AB Disclosed is a cervical canal maturing agent contg. a prostaglandin I2 deriv. as the active ingredient. It exerts excellent maturing effect on the cervical canal without causing any uterine contraction, which makes it useful as a cervical maturing agent to prevent premature delivery.

IT **221364-36-9**
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prostaglandin I2 derivs. for cervical canal maturing to prevent premature delivery)

RN 221364-36-9 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[(1E,3S)-3-cyclohexyl-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, (1R,2R,3aS,8bS)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L90 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:219989 CAPLUS
DOCUMENT NUMBER: 130:247039
TITLE: C-C chemokine production inhibitor
INVENTOR(S): Kurumatani, Hajimu; Sasaki, Rie; Kumagai, Hiroki
PATENT ASSIGNEE(S): Toray Industries, Inc., Japan
SOURCE: PCT Int. Appl., 39 pp.
CODEN: PIXXD2

Searched by Barb O'Bryen, STIC 308-4291

DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9913880	A1	19990325	WO 1998-JP4164	19980916
W: CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1016408	A1	20000705	EP 1998-943009	19980916
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

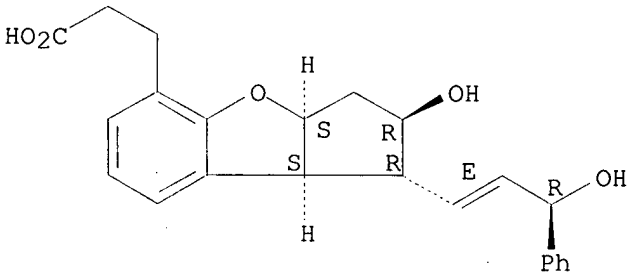
PRIORITY APPLN. INFO.: JP 1997-250966 A 19970916
WO 1998-JP4164 W 19980916

AB A C-C chemokine prodn. inhibitor comprising a prostanoic acid deriv. as the active ingredient and a method for inhibiting the prodn. of C-C chemokine by using the same. The inhibitor is useful for the treatment of circulatory system disorders, inflammations, allergic diseases, kidney diseases and the like.

IT **123585-81-9 123586-33-4 123672-61-7**
RL: BAC (Biological activity or effector, except adverse); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(PGI2 derivs. as C-C chemokine prodn. inhibitors for treatment of diseases)

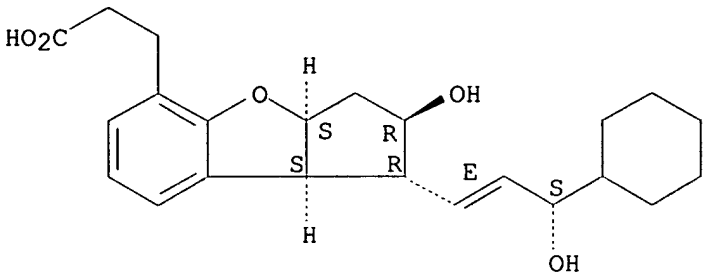
RN 123585-81-9 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[(1E,3R)-3-hydroxy-3-phenyl-1-propenyl]-, (1R,2R,3aS,8bS)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



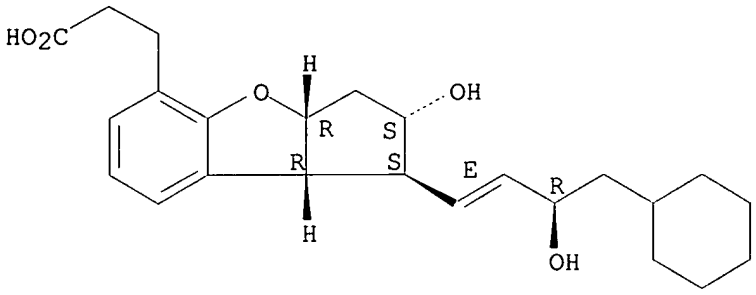
RN 123586-33-4 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[(1E,3R)-3-cyclohexyl-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, (1S,2S,3aR,8bR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



RN 123672-61-7 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[(1E,3R)-4-cyclohexyl-3-hydroxy-1-butenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, (1S,2S,3aR,8bR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L90 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:440190 CAPLUS
DOCUMENT NUMBER: 127:55899
TITLE: Ocular depressor
INVENTOR(S): Kurumatani, Hajimu; Kawashima, Ayako; Isogaya, Masafumi; Wakita, Hisanori
PATENT ASSIGNEE(S): Toray Industries, Inc., Japan; Kurumatani, Hajimu; Kawashima, Ayako; Isogaya, Masafumi; Wakita, Hisanori
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9717974	A1	19970522	WO 1996-JP3351	19961114
W: AU, CA, CN, JP, KR, NO, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2210255	AA	19970522	CA 1996-2210255	19961114
AU 9675873	A1	19970605	AU 1996-75873	19961114
AU 717104	B2	20000316		
EP 795331	A1	19970917	EP 1996-938475	19961114
R: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
CN 1177926	A	19980401	CN 1996-192471	19961114

NO 9703122	A	19970827	NO 1997-3122		19970704
US 6127413	A	20001003	US 1997-875022		19971015
PRIORITY APPLN. INFO.:			JP 1995-295789	A	19951114
			WO 1996-JP3351	W	19961114

OTHER SOURCE(S): MARPAT 127:55899

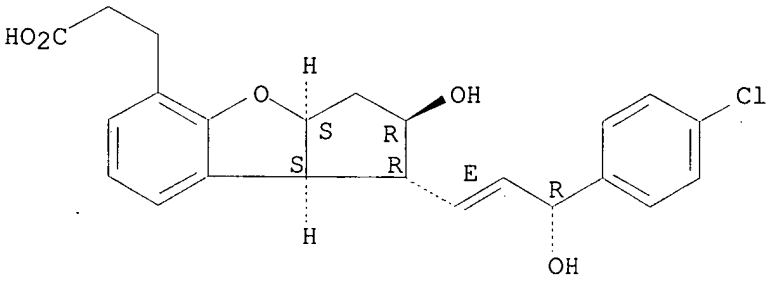
AB This invention relates to an ocular depressor [eye lotion] contg. as the active ingredient 4,8-inter-m-phenylene PGI2 derivs. or pharmacol. acceptable salts thereof. The drug is useful as a remedy for a no. of states with high ocular tension such as glaucoma, ocular hypertension and postoperative high ocular tension.

IT **123586-45-8**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ocular depressor contg. 4,8-inter-m-phenylene PGI2 derivs.)

RN 123586-45-8 CAPLUS

CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L90 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2002 ACS

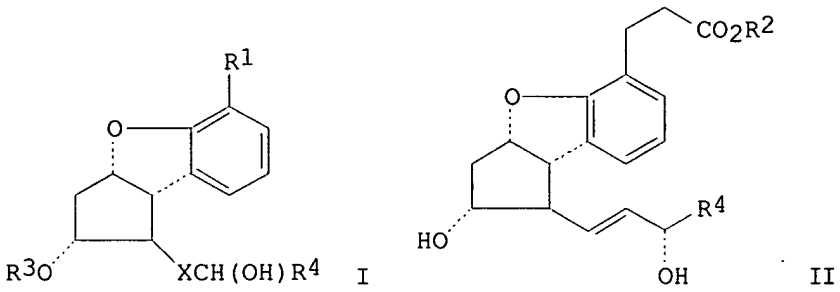
ACCESSION NUMBER:	1989:632453 CAPLUS
DOCUMENT NUMBER:	111:232453
TITLE:	Preparation of 2,5,6,7-tetranor-4,8-inter-m-phenylene PGI2 derivatives as cardiovascular and antiulcer agents
INVENTOR(S):	Ohno, Kiyotaka; Takahashi, Toshiya; Ohtake, Atsushi; Wakita, Hisanori; Nishio, Shintaro
PATENT ASSIGNEE(S):	Toray Industries, Inc., Japan
SOURCE:	PCT Int. Appl., 550 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	Japanese
FAMILY ACC. NUM. COUNT:	1

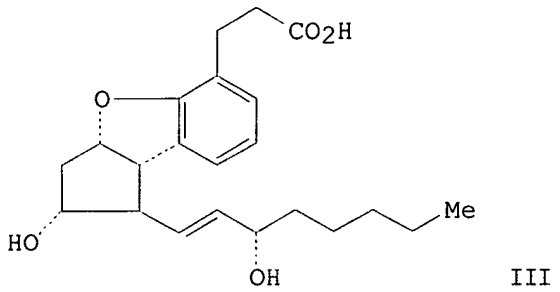
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8903387	A1	19890420	WO 1988-JP1048	19881014
W: DK, FI, JP, KR, NO, US				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
EP 365678	A1	19900502	EP 1988-908973	19881014
EP 365678	B1	19940105		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 99683	E	19940115	AT 1988-908973	19881014
JP 06062599	B4	19940817	JP 1988-508179	19881014
FI 8902949	A	19890615	FI 1989-2949	19890615
DK 8902962	A	19890801	DK 1989-2962	19890615
NO 8902499	A	19890816	NO 1989-2499	19890615

NO 174668	B	19940307		
NO 174668	C	19940615		
US 5401768	A	19950328	US 1993-90995	19930713
PRIORITY APPLN. INFO.:			JP 1987-262021	19871016
			EP 1988-908973	19881014
			WO 1988-JP1048	19881014
			US 1989-377827	19890814
			US 1991-667245	19910308

GI





AB The title compds. [I, II; R1 = CH2CH2CO2R2, CH2CH2CH2OH; R2 = H, pharmacol. acceptable cation, ester residue; R3 = H, C1-12 acyl, etc.; X = CH2CH2, CH:CH; R4 = C1-12 alkyl, ZAr, etc.; Z = bond, CtH2t; t = 1-5; Ar = (substituted) Ph], useful as antiulcer and cardiovascular agents, were prepd. Sapon. of 2,5,6,7-tetranor-4,8-inter-m-phenylyene PGI2 Me ester (prepd. by redn. and sapon. of 15-oxo-2,5,6,7-tetranor-4,8-inter-m-phenylene PGI2 Me ester, 11-acetate), followed by acidification, gave 2,5,6,7-tetranor-4,8-inter-m-phenylene PGI2 (III). III inhibited ADP-induced blood platelet aggregationin vitro with an IC50 of 5.8 ng/mL.

IT **123585-81-9P 123585-82-0P 123585-83-1P**
123586-30-1P 123586-31-2P 123586-32-3P
123586-33-4P 123586-34-5P 123586-35-6P
123586-36-7P 123586-37-8P 123586-38-9P
123586-39-0P 123586-40-3P 123586-41-4P
123586-42-5P 123586-43-6P 123586-44-7P
123586-45-8P 123586-46-9P 123586-64-1P
123586-65-2P 123586-66-3P 123586-67-4P
123586-68-5P 123586-69-6P 123586-70-9P
123586-71-0P 123586-72-1P 123586-73-2P
123586-74-3P 123586-75-4P 123586-76-5P
123586-77-6P 123586-78-7P 123586-79-8P
123586-80-1P 123586-81-2P 123586-82-3P
123586-83-4P 123586-84-5P 123586-85-6P
123586-86-7P 123586-87-8P 123670-73-5P
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123670-77-9P 123670-78-0P 123670-79-1P
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123670-86-0P 123670-87-1P 123670-88-2P
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123670-92-8P 123670-93-9P 123670-94-0P
123670-95-1P 123670-96-2P 123671-25-0P
123671-26-1P 123671-27-2P 123671-28-3P
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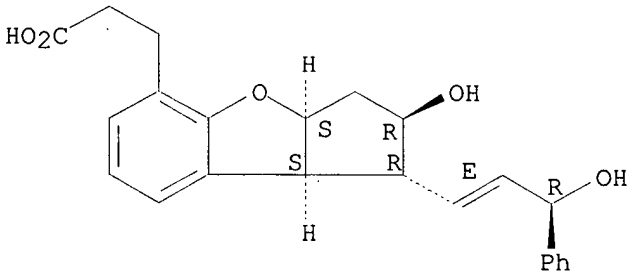
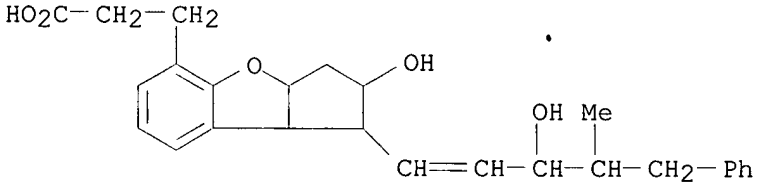
123671-35-2P 123671-36-3P 123671-37-4P
123671-38-5P 123671-39-6P 123671-40-9P
123671-41-0P 123671-42-1P 123671-45-4P
123672-61-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as antiulcer and cardiovascular agent)

RN 123585-81-9 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[(1E,3R)-3-hydroxy-3-phenyl-1-propenyl]-, (1R,2R,3aS,8bS)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.

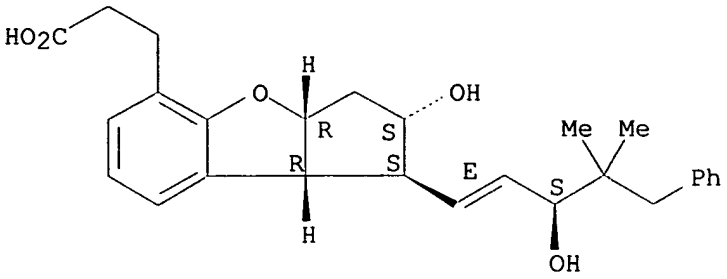


RN 123585-82-0 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)- (9CI) (CA INDEX NAME)



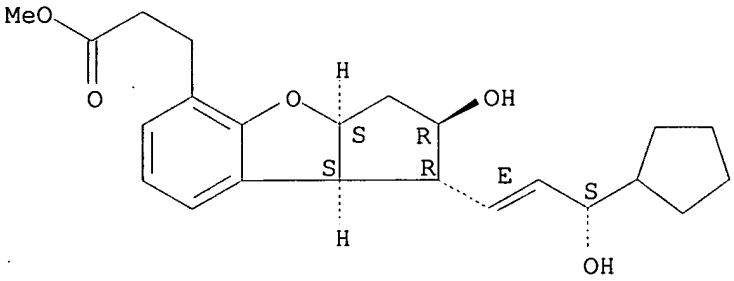
RN 123585-83-1 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4,4-dimethyl-5-phenyl-1-pentenyl)-, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



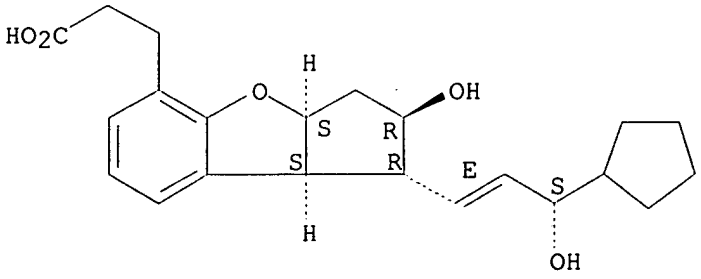
RN 123586-30-1 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclopentyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



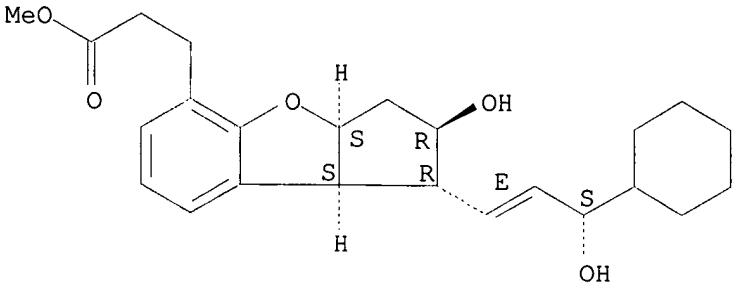
RN 123586-31-2 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclopentyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



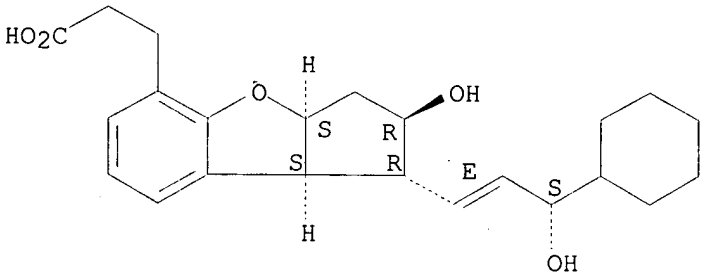
RN 123586-32-3 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclohexyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



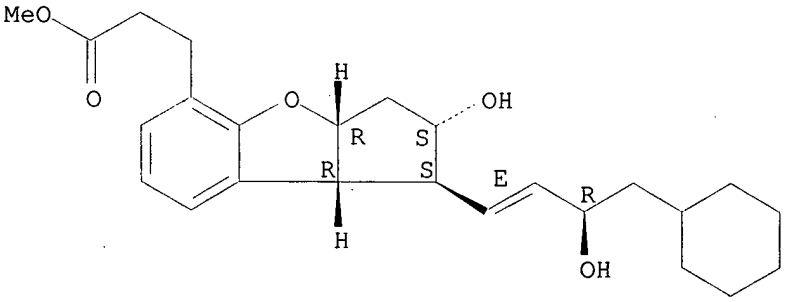
RN 123586-33-4 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[(1E,3R)-3-cyclohexyl-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, (1S,2S,3aR,8bR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



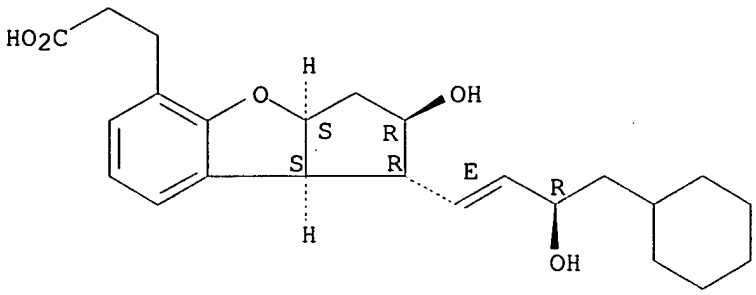
RN 123586-34-5 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(4-cyclohexyl-3-hydroxy-1-butenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



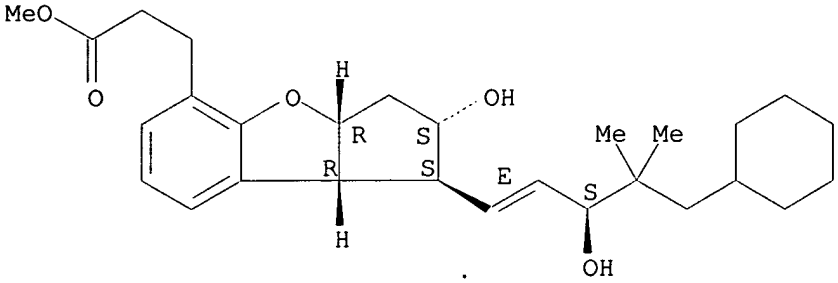
RN 123586-35-6 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(4-cyclohexyl-3-hydroxy-1-butenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



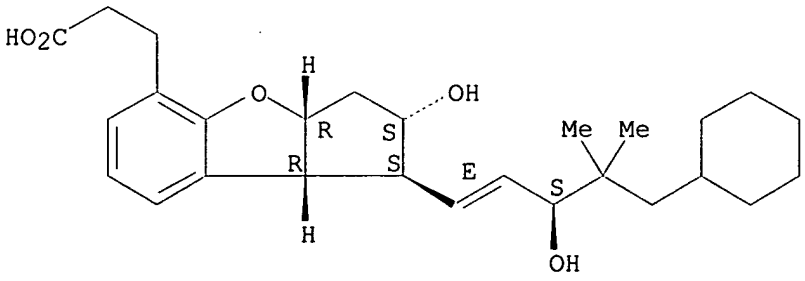
RN 123586-36-7 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(5-cyclohexyl-3-hydroxy-4,4-dimethyl-1-pentenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



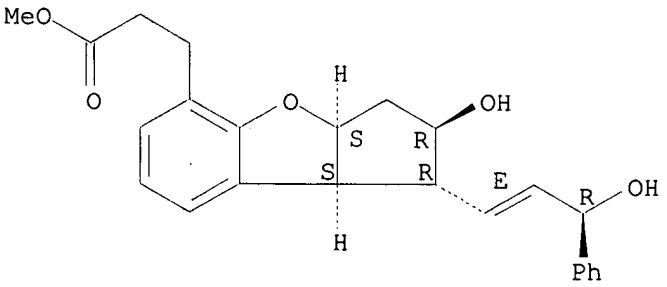
RN 123586-37-8 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(5-cyclohexyl-3-hydroxy-4,4-dimethyl-1-pentenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



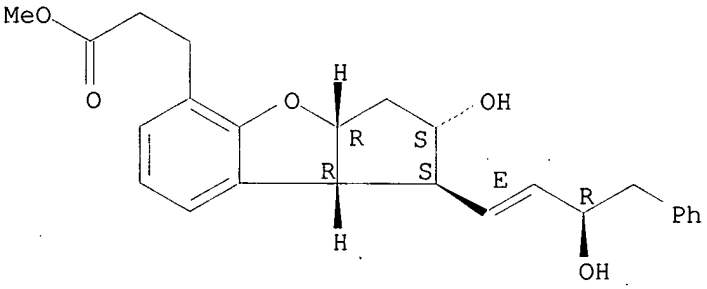
RN 123586-38-9 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-3-phenyl-1-propenyl)-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



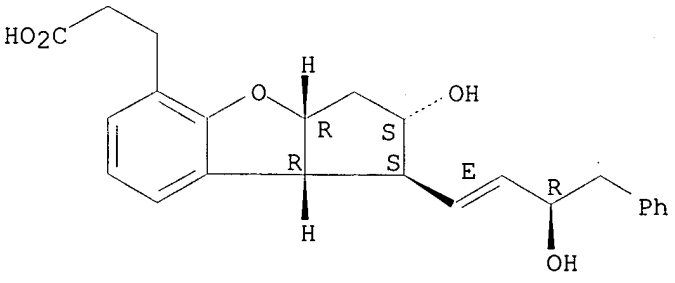
RN 123586-39-0 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-phenyl-1-butenyl)-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



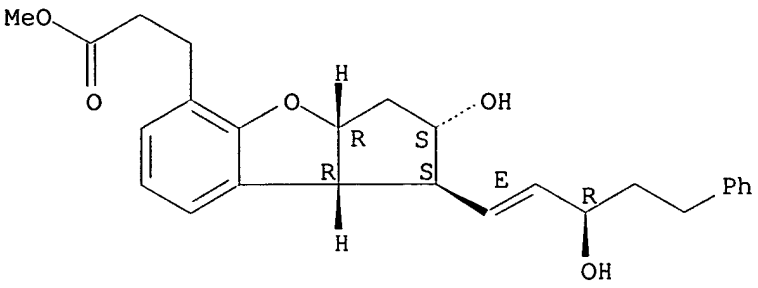
RN 123586-40-3 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-phenyl-1-butenyl)-, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



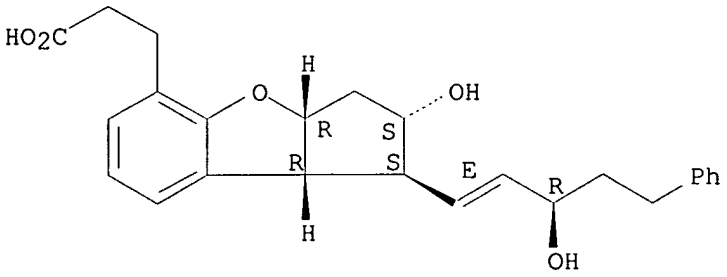
RN 123586-41-4 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



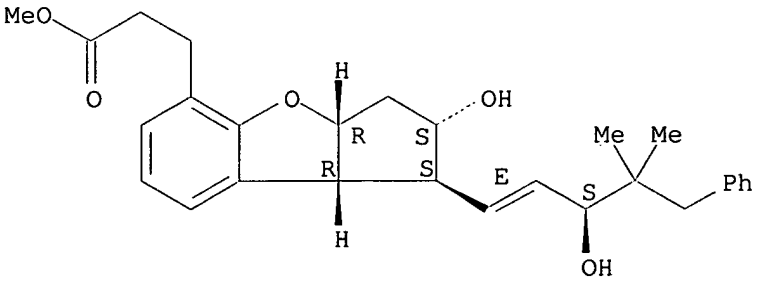
RN 123586-42-5 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



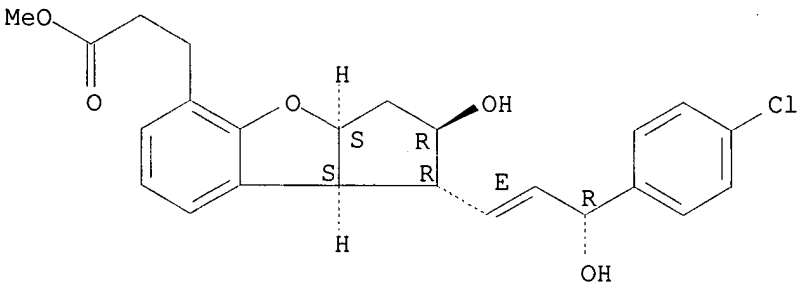
RN 123586-43-6 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4,4-dimethyl-5-phenyl-1-pentenyl)-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



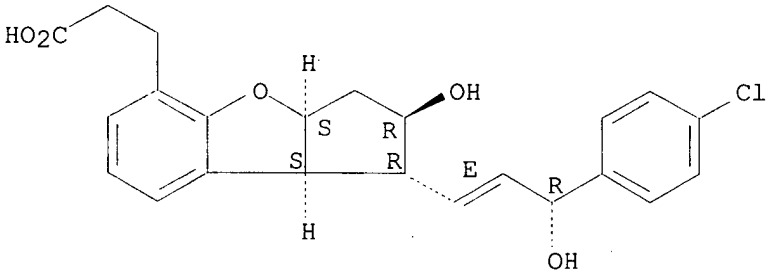
RN 123586-44-7 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



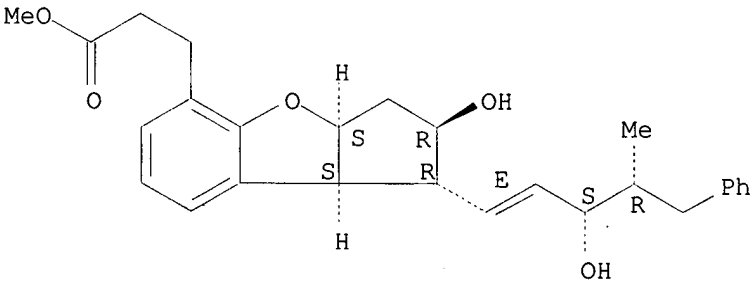
RN 123586-45-8 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



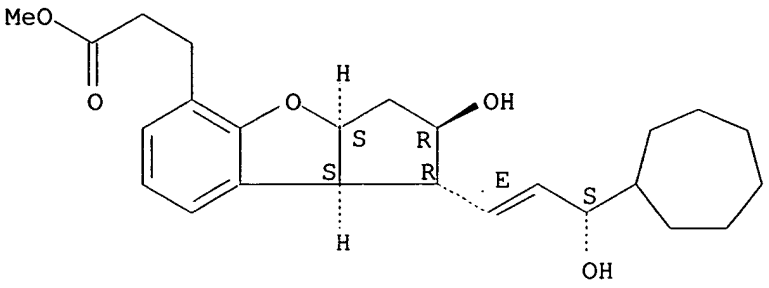
RN 123586-46-9 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, methyl ester, [1R-[1.alpha.(1E,3S*,4R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



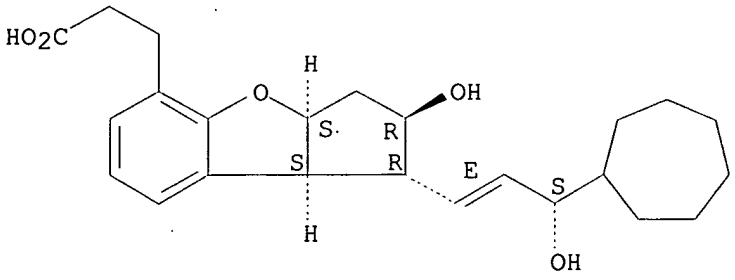
RN 123586-64-1 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cycloheptyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



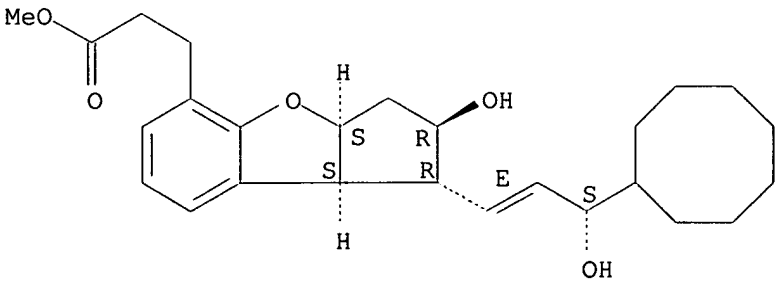
RN 123586-65-2 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cycloheptyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



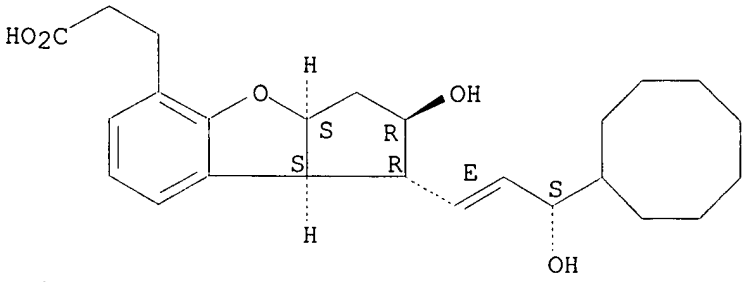
RN 123586-66-3 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclooctyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



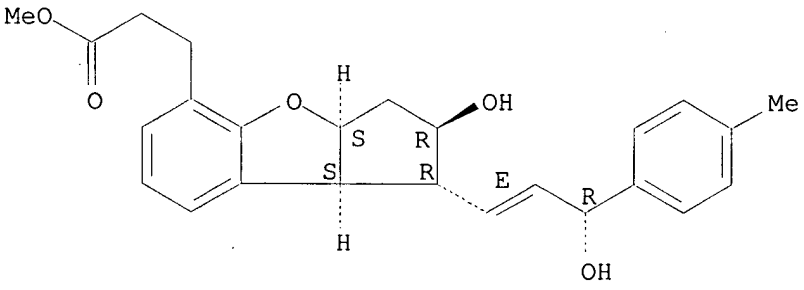
RN 123586-67-4 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclooctyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



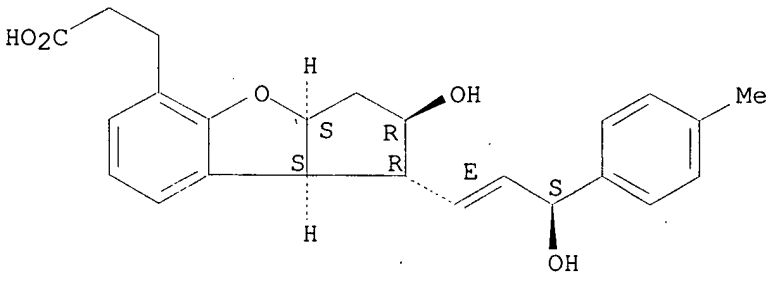
RN 123586-68-5 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-methylphenyl)-1-propenyl]-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

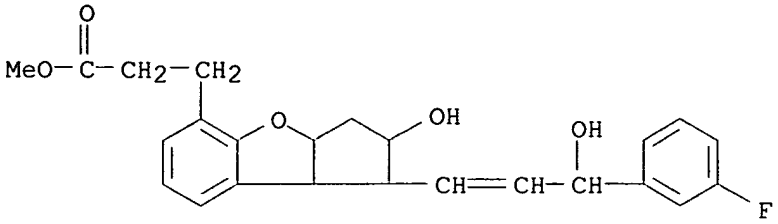


RN 123586-69-6 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-methylphenyl)-1-propenyl]-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

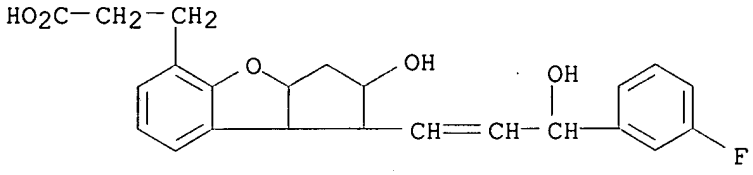
Absolute stereochemistry.
Double bond geometry as shown.



RN 123586-70-9 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

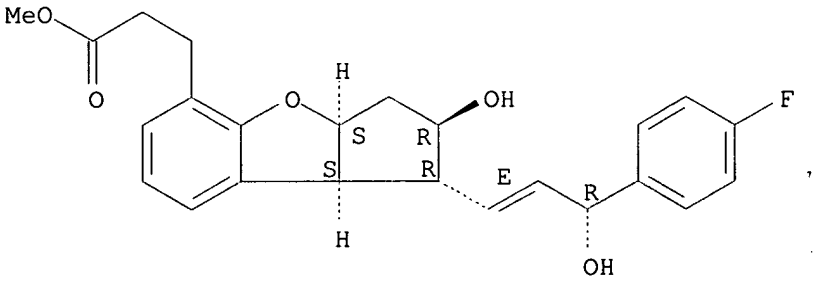


RN 123586-71-0 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)



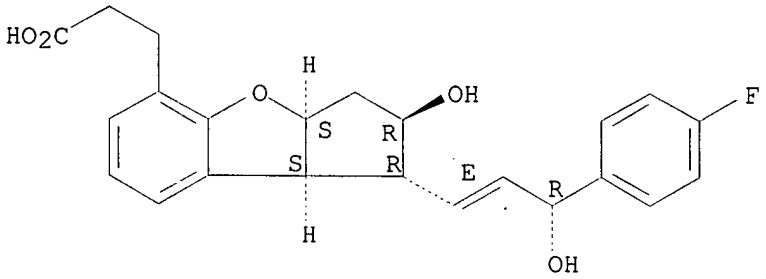
RN 123586-72-1 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



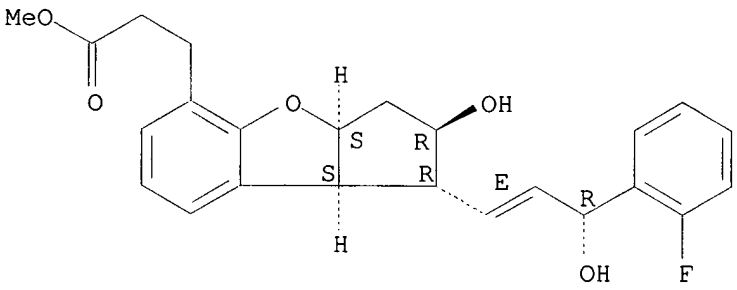
RN 123586-73-2 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



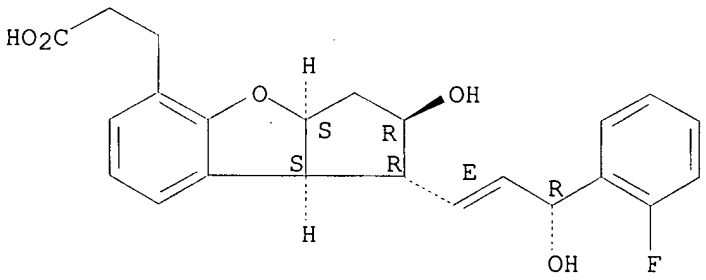
RN 123586-74-3 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



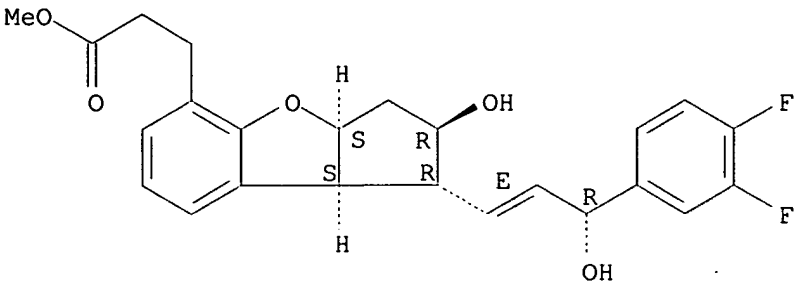
RN 123586-75-4 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



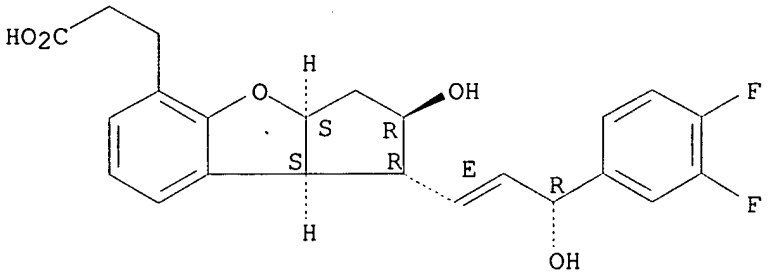
RN 123586-76-5 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3,4-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



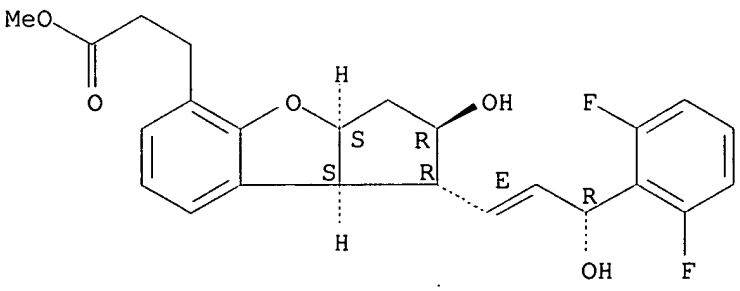
RN 123586-77-6 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3,4-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



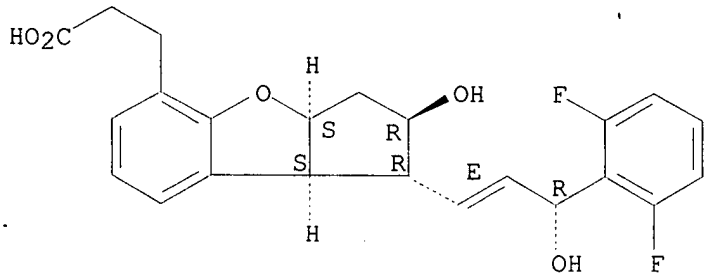
RN 123586-78-7 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2,6-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



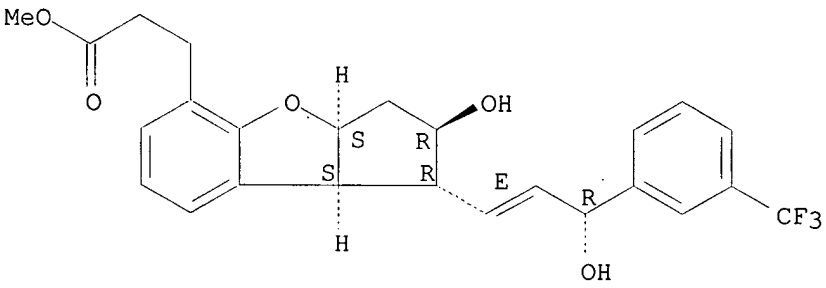
RN 123586-79-8 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2,6-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



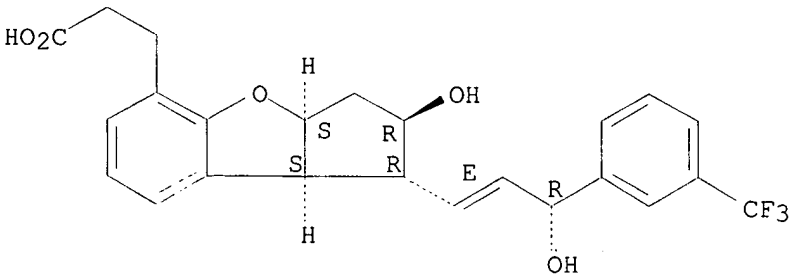
RN 123586-80-1 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-[3-(trifluoromethyl)phenyl]-1-propenyl]-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



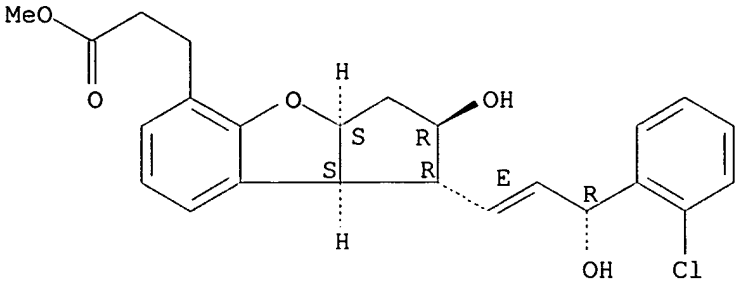
RN 123586-81-2 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-[3-(trifluoromethyl)phenyl]-1-propenyl]-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



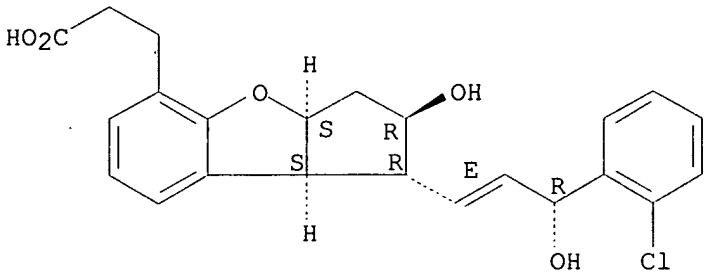
RN 123586-82-3 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



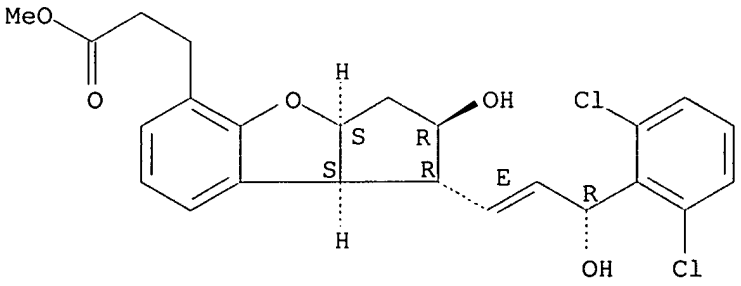
RN 123586-83-4 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



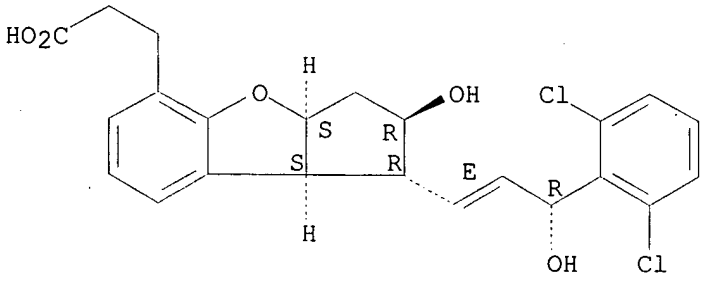
RN 123586-84-5 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2,6-dichlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



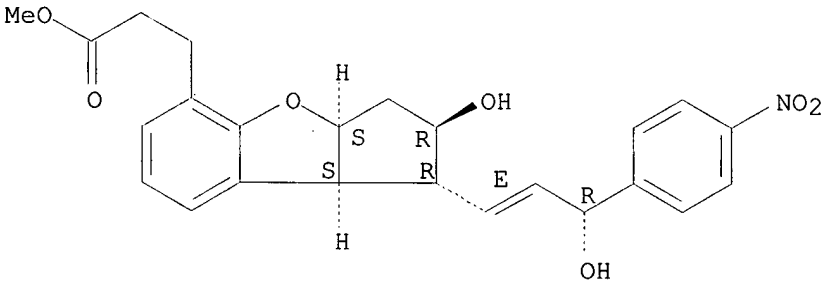
RN 123586-85-6 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2,6-dichlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



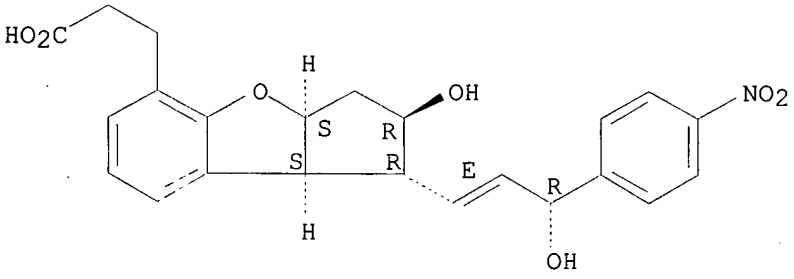
RN 123586-86-7 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-nitrophenyl)-1-propenyl]-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



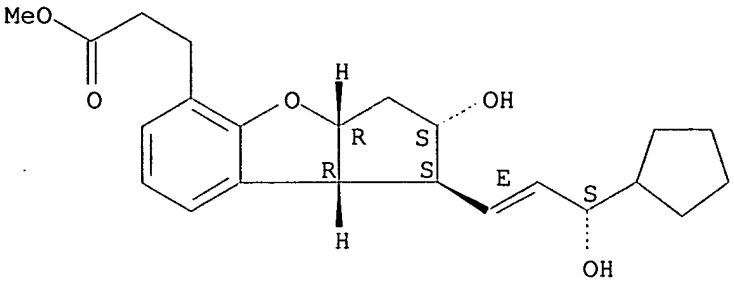
RN 123586-87-8 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-nitrophenyl)-1-propenyl]-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



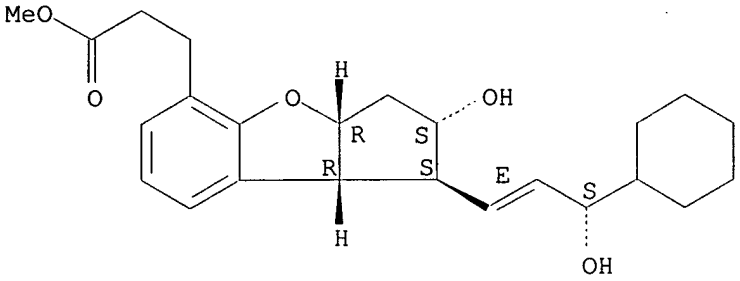
RN 123670-73-5 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclopentyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



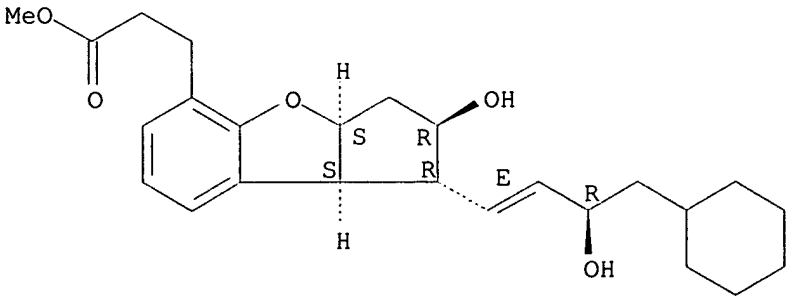
RN 123670-74-6 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclohexyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



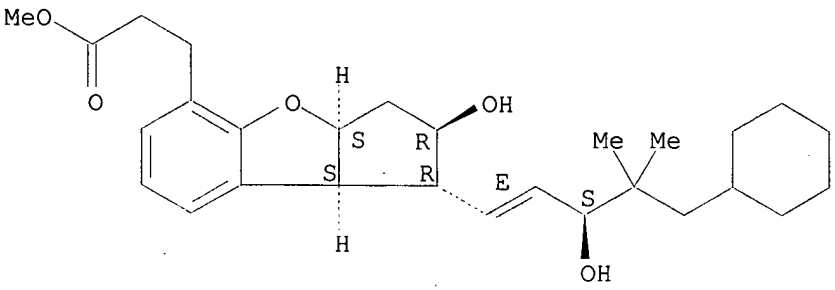
RN 123670-75-7 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(4-cyclohexyl-3-hydroxy-1-butenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



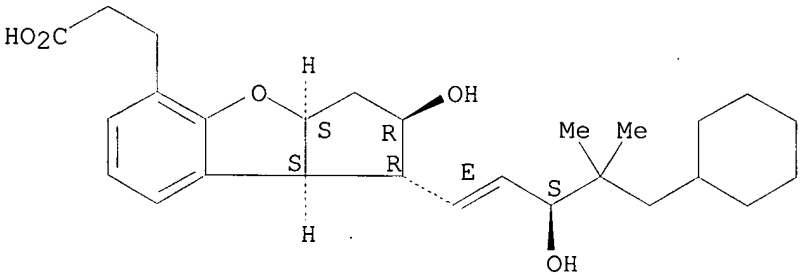
RN 123670-76-8 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(5-cyclohexyl-3-hydroxy-4,4-dimethyl-1-pentenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



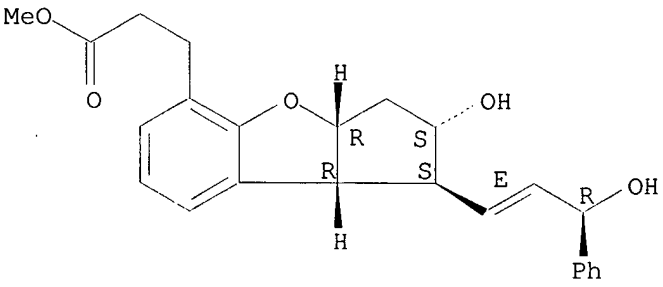
RN 123670-77-9 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(5-cyclohexyl-3-hydroxy-4,4-dimethyl-1-pentenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



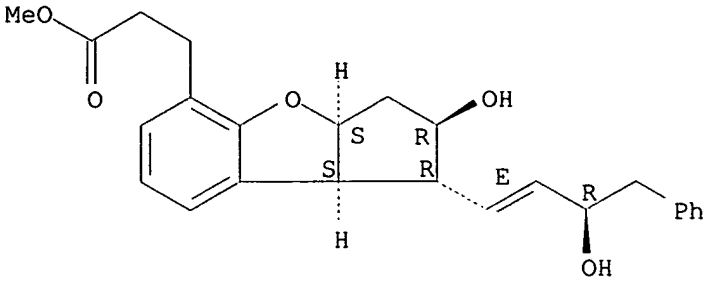
RN 123670-78-0 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-3-phenyl-1-propenyl)-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



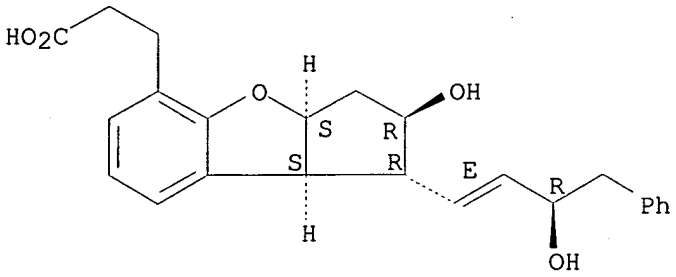
RN 123670-79-1 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-phenyl-1-butenyl)-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



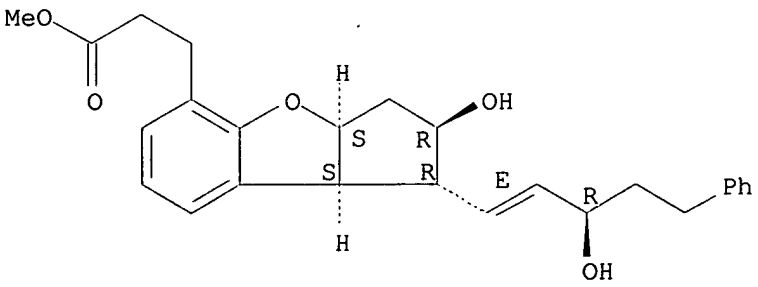
RN 123670-80-4 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-phenyl-1-butenyl)-, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



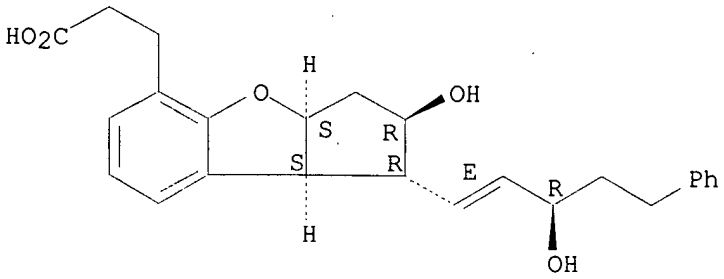
RN 123670-81-5 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



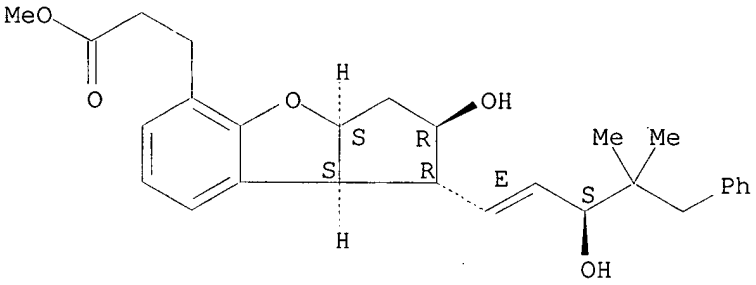
RN 123670-82-6 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



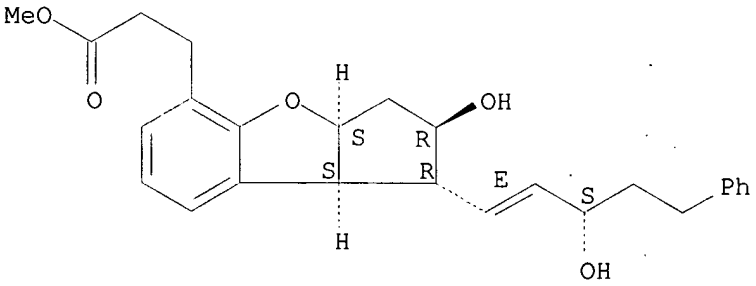
RN 123670-83-7 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4,4-dimethyl-5-phenyl-1-pentenyl)-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



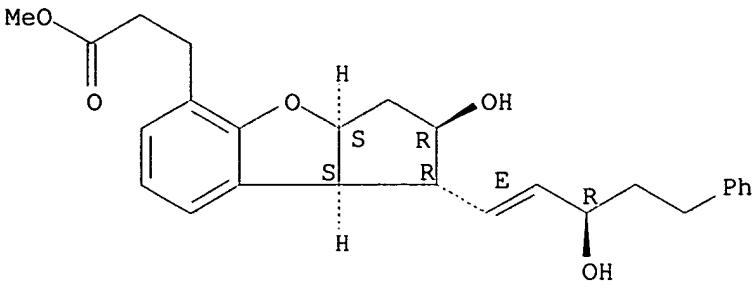
RN 123670-84-8 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



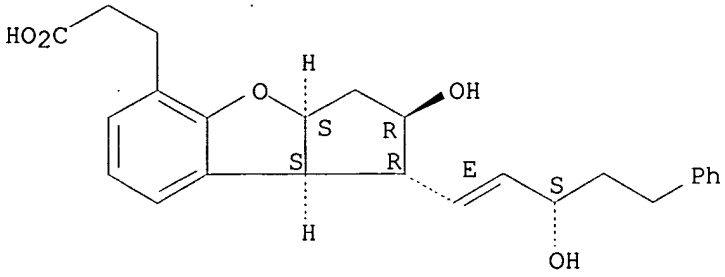
RN 123670-85-9 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



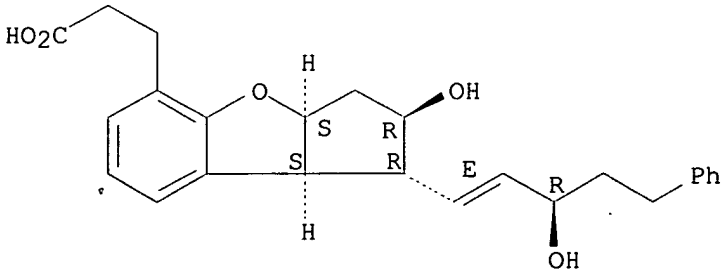
RN 123670-86-0 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



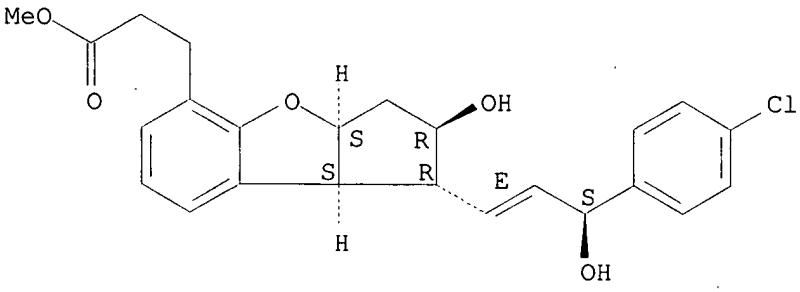
RN 123670-87-1 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



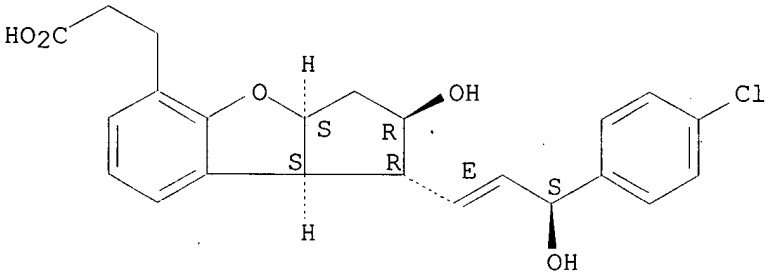
RN 123670-88-2 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



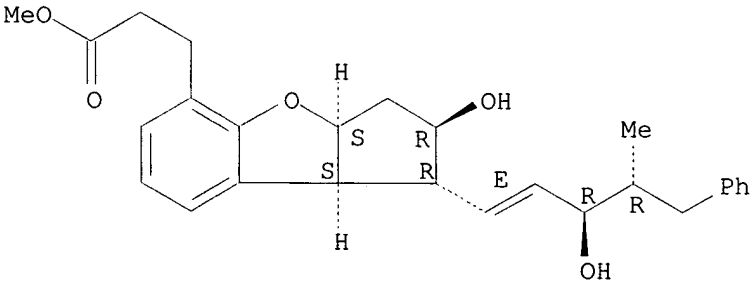
RN 123670-89-3 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



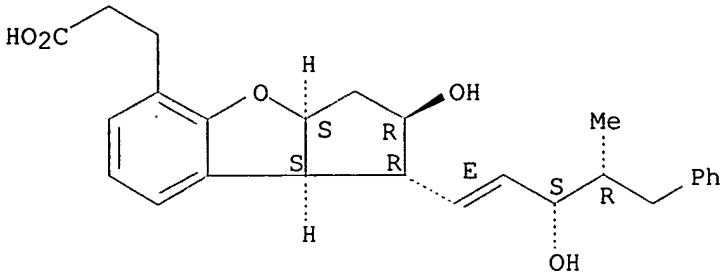
RN 123670-90-6 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, methyl ester, [1R-[1.alpha.(1E,3R*,4R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



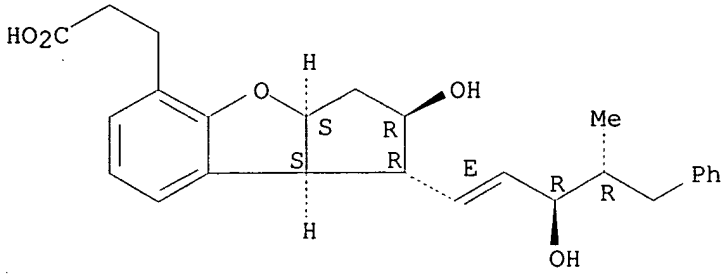
RN 123670-91-7 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, [1R-[1.alpha.(1E,3S*,4R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

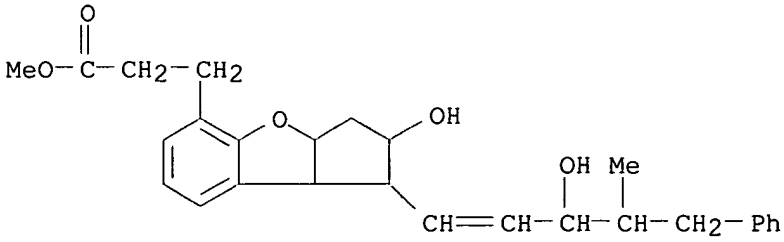


RN 123670-92-8 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, [1R-[1.alpha.(1E,3R*,4R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

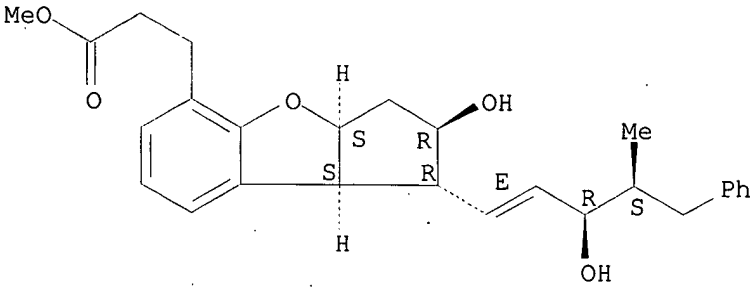


RN 123670-93-9 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, methyl ester, [1R-[1.alpha.(1E,3S*,5S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

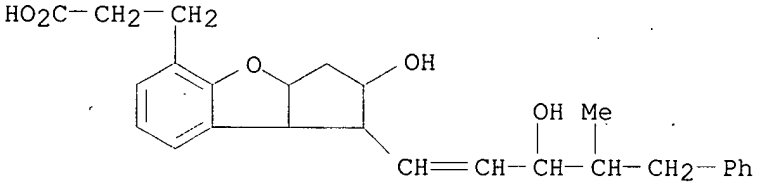


RN 123670-94-0 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, methyl ester, [1R-[1.alpha.(1E,3R*,4S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

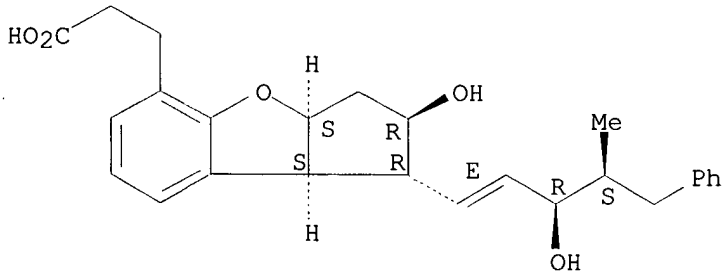


RN 123670-95-1 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, [1R-[1.alpha.(1E,3S*,5S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)



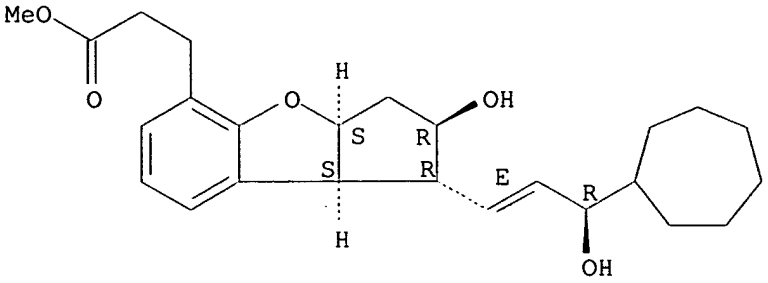
RN 123670-96-2 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, [1R-[1.alpha.(1E,3R*,4S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



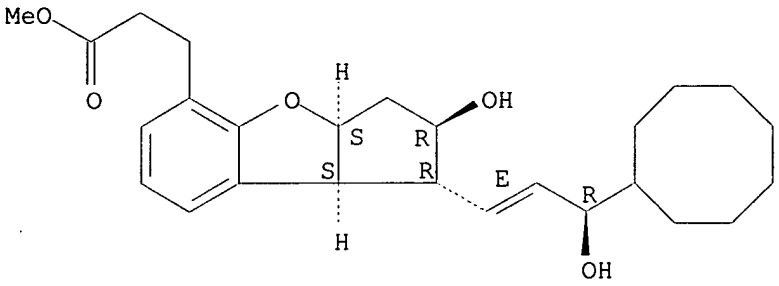
RN 123671-25-0 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cycloheptyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



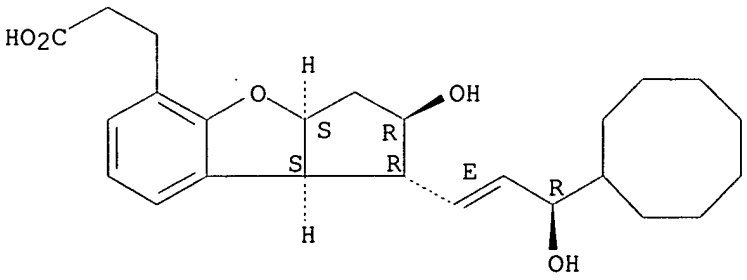
RN 123671-26-1 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclooctyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



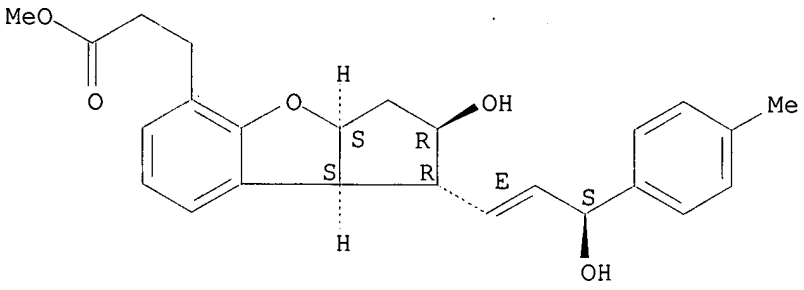
RN 123671-27-2 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclooctyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



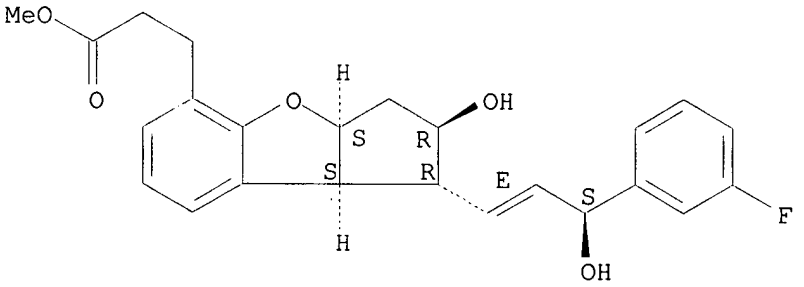
RN 123671-28-3 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-methylphenyl)-1-propenyl]-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



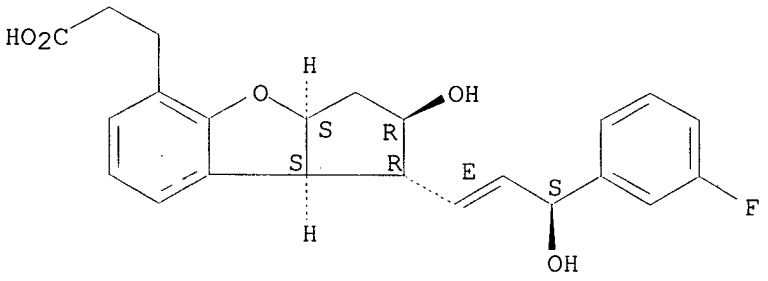
RN 123671-29-4 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



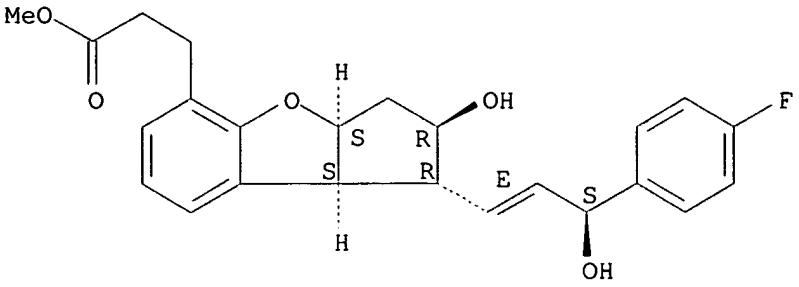
RN 123671-30-7 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



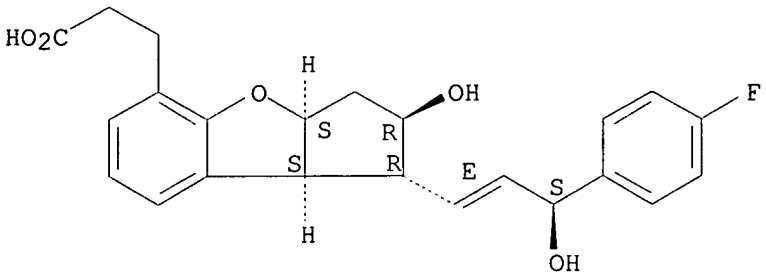
RN 123671-31-8 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



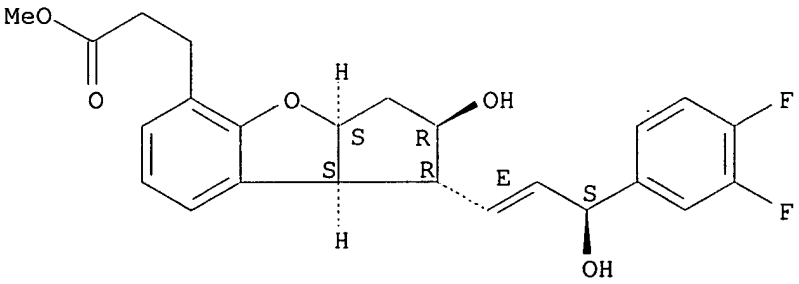
RN 123671-32-9 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



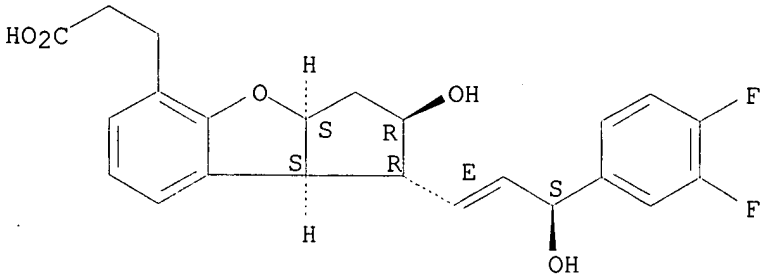
RN 123671-33-0 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3,4-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



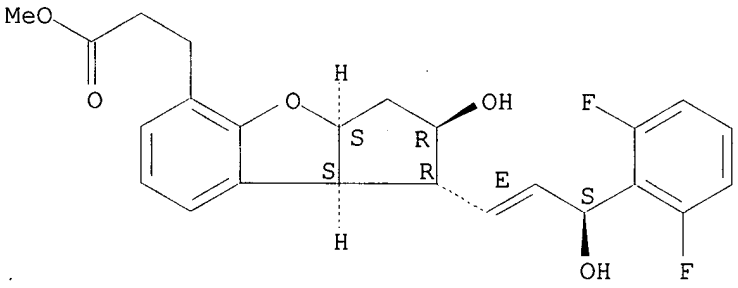
RN 123671-34-1 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3,4-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



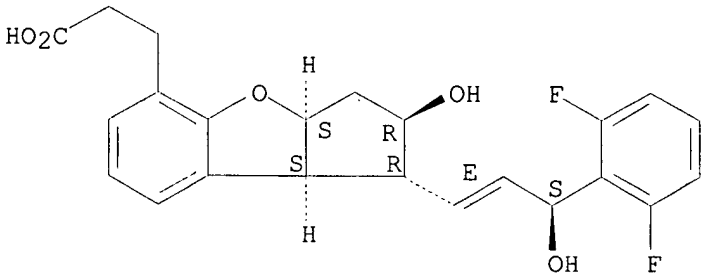
RN 123671-35-2 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2,6-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



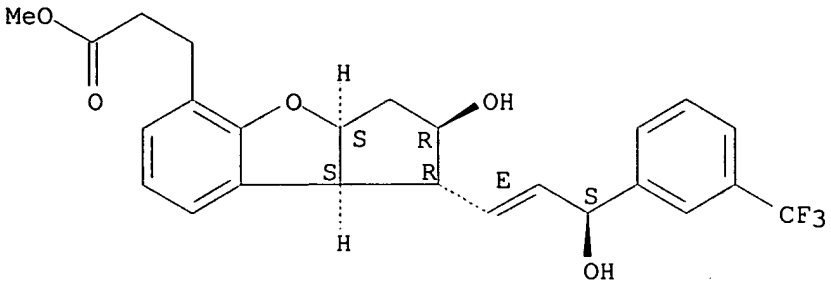
RN 123671-36-3 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2,6-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



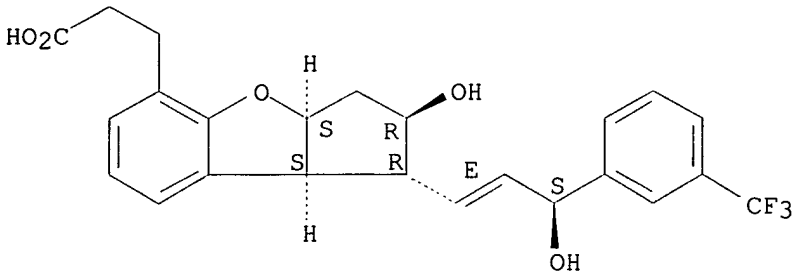
RN 123671-37-4 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-[3-(trifluoromethyl)phenyl]-1-propenyl]-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



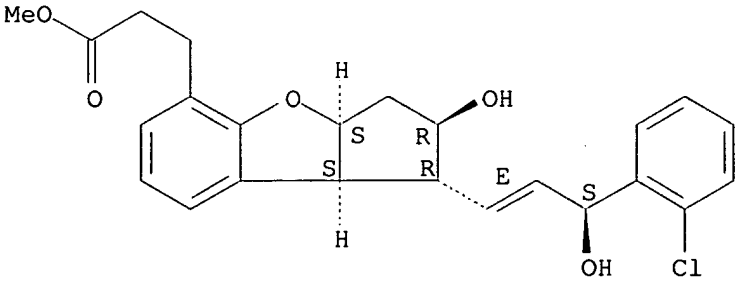
RN 123671-38-5 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-[3-(trifluoromethyl)phenyl]-1-propenyl]-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



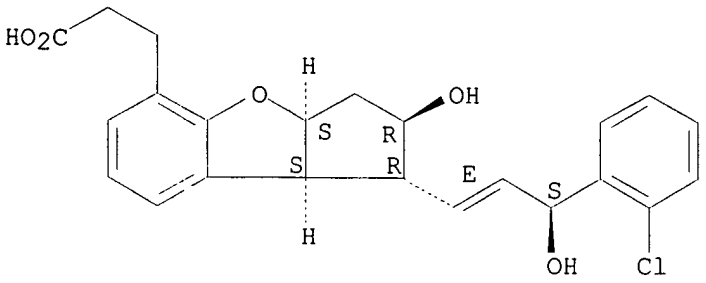
RN 123671-39-6 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



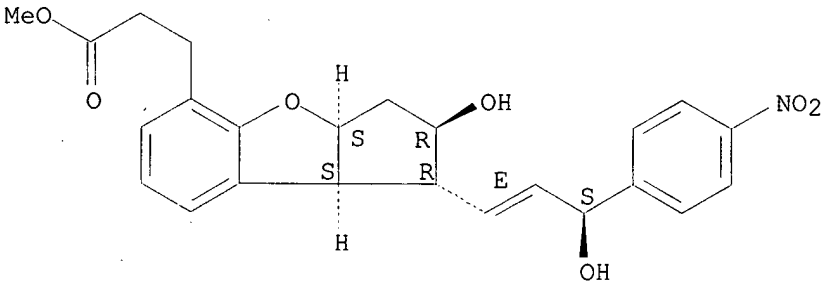
RN 123671-40-9 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



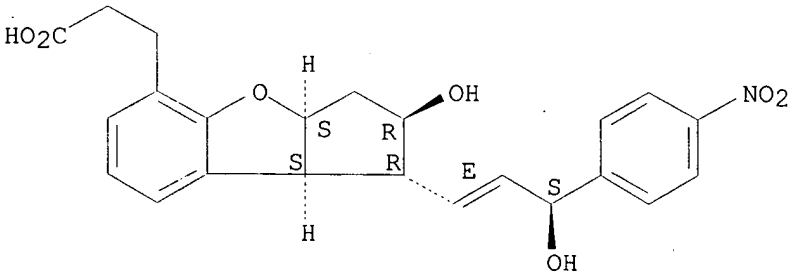
RN 123671-41-0 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-nitrophenyl)-1-propenyl]-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



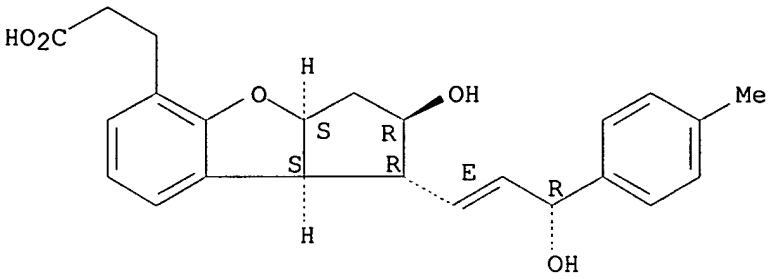
RN 123671-42-1 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-nitrophenyl)-1-propenyl]-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



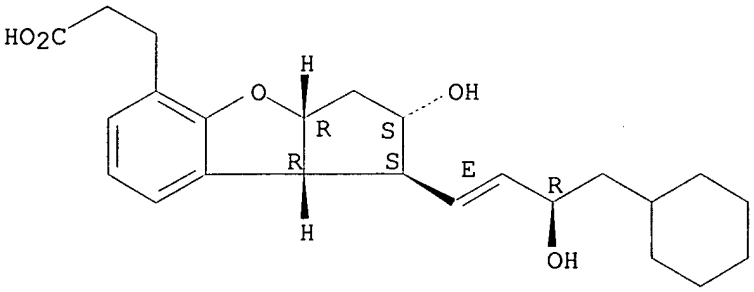
RN 123671-45-4 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-methylphenyl)-1-propenyl]-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 123672-61-7 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[(1E,3R)-4-cyclohexyl-3-hydroxy-1-butenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, (1S,2S,3aR,8bR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



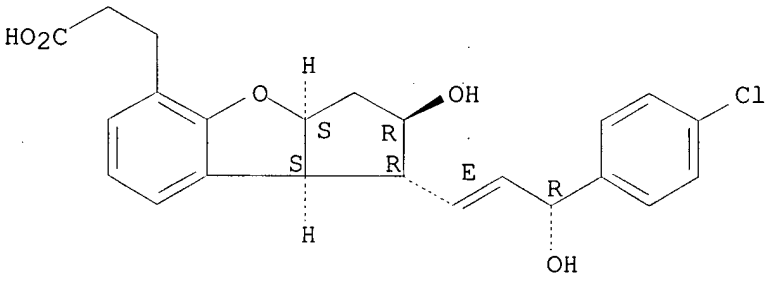
L90 ANSWER 8 OF 9 USPATFULL

ACCESSION NUMBER:	2000:131885 USPATFULL		
TITLE:	Ocular depressor		
INVENTOR(S):	Kurumatani, Hajimu, Kanagawa, Japan Kawashima, Ayako, Kanagawa, Japan Isogaya, Masafumi, Kanagawa, Japan Wakita, Hisanori, Kanagawa, Japan		
PATENT ASSIGNEE(S):	Toray Industries, Inc., Tokyo, Japan (non-U.S. corporation)		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6127413		20001003
	WO 9717974		19970522
APPLICATION INFO.:	US 1997-875022		19971015 (8)
	WO 1996-JP3351		19961114
			19971015 PCT 371 date
			19971015 PCT 102(e) date
	NUMBER		DATE
PRIORITY INFORMATION:	JP 1995-295789		19951114
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Fay, Zohreh		
LEGAL REPRESENTATIVE:	Birch, Stewart, Kolasch & Birch, LLP		
NUMBER OF CLAIMS:	3		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 1 Drawing Page(s)		

LINE COUNT: 468
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention relates to an agent for decreasing ocular tension comprising as an effective ingredient a 4,8-inter-m-phenylene PGI.sub.2 derivative represented by the formula: ##STR1## or a pharmaceutically acceptable salt thereof. The agent for decreasing ocular tension according to the present invention is useful as a therapeutic agent for treating various high ocular tension states such as glaucoma, ocular hypertension and high ocular tension which occurs after surgery.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **123586-45-8**
(ocular depressor contg. 4,8-inter-m-phenylene PGI2 derivs.)
RN 123586-45-8 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



L90 ANSWER 9 OF 9 USPATFULL

ACCESSION NUMBER:	95:27335 USPATFULL
TITLE:	2,5,6,7-tetranor-4,8-inter-m-phenylene PGI.sub.2, derivative, manufacturing process thereof and its use
INVENTOR(S):	Ohno, Kiyotaka, Fujisawa, Japan Takahashi, Toshiya, Kamakura, Japan Ohtake, Atsushi, Kamakura, Japan Wakita, Hisanori, Kamakura, Japan Nishio, Shintaro, Ebina, Japan
PATENT ASSIGNEE(S):	Toray Industries, Inc., Japan (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5401768		19950328	
	WO 8903387		19890420	
APPLICATION INFO.:	US 1993-90995		19930713	(8)
	WO 1988-JP1048		19881014	
			19890814	PCT 371 date
			19890814	PCT 102(e) date

RELATED APPLN. INFO.: Continuation of Ser. No. US 1991-667245, filed on 8 Mar 1991, now abandoned which is a division of Ser. No. US 1989-377827, filed on 14 Aug 1989, now abandoned

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1987-262021	19871016

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted

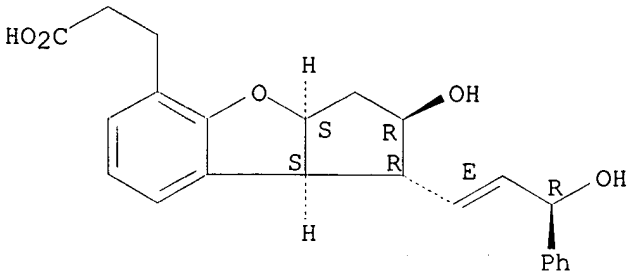
PRIMARY EXAMINER: Gerstl, Robert
LEGAL REPRESENTATIVE: Miller, Austin R.
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
LINE COUNT: 8447
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed are 2,5,6,7-tetranor-4,8-inter-m-phemylene PGI.sub.2 derivatives such as 16-methyl-2,5,6,7-tetranor-4,8-inter-m-phenylene PGI.sub.2 and methyl ester thereof, 17-methyl-2,5,6,7-tetranor-4,8-inter-m-phenylene PGI.sub.2 and methyl ester thereof, 15-phenyl-2,5,6,7,16,17,18,19,20-nonanor-4,8-inter-m-phenylene PGI.sub.2, 16-methyl-17-phenyl-2,5,6,7,18,19,20-heptanor-4,8-inter-m-phenylene PGI.sub.2, 16,16-dimethyl-17-phenyl-2,5,6,7,18,19,20-heptanor-4,8-inter-m-phenylene PGI.sub.2, 16-methyl-16-phenoxy-2,5,6,7,17,18,19,20-octanor-4,8-inter-m-phenylene PGI.sub.2, 16-methyl-16-phenoxy-2,5,6,7,18,19,20-heptanor-4,8-inter-m-phenylene PGI.sub.2 and methyl ester thereof, and 3-decarboxy-3-hydroxymethyl-16-methyl-16-phenoxy-2,5,6,7,18,19,20-heptanor-4,8-inter-m-phenylene PGI.sub.2, which are useful as pharmaceuticals.

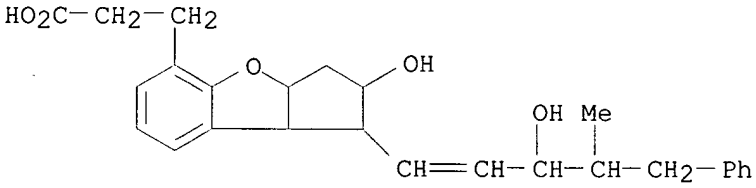
These compounds are useful as an antiulcer drug, antihypertensive drug, antithrombus drug or the like.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **123585-81-9P 123585-82-0P 123585-83-1P**
123586-30-1P 123586-31-2P 123586-32-3P
123586-33-4P 123586-34-5P 123586-35-6P
123586-36-7P 123586-37-8P 123586-38-9P
123586-39-0P 123586-40-3P 123586-41-4P
123586-42-5P 123586-43-6P 123586-44-7P
123586-45-8P 123586-46-9P 123586-64-1P
123586-65-2P 123586-66-3P 123586-67-4P
123586-68-5P 123586-69-6P 123586-70-9P
123586-71-0P 123586-72-1P 123586-73-2P
123586-74-3P 123586-75-4P 123586-76-5P
123586-77-6P 123586-78-7P 123586-79-8P
123586-80-1P 123586-81-2P 123586-82-3P
123586-83-4P 123586-84-5P 123586-85-6P
123586-86-7P 123586-87-8P 123670-73-5P
123670-74-6P 123670-75-7P 123670-76-8P
123670-77-9P 123670-78-0P 123670-79-1P
123670-80-4P 123670-81-5P 123670-82-6P
123670-83-7P 123670-84-8P 123670-85-9P
123670-86-0P 123670-87-1P 123670-88-2P
123670-89-3P 123670-90-6P 123670-91-7P
123670-92-8P 123670-93-9P 123670-94-0P
123670-95-1P 123670-96-2P 123671-25-0P
123671-26-1P 123671-27-2P 123671-28-3P
123671-29-4P 123671-30-7P 123671-31-8P
123671-32-9P 123671-33-0P 123671-34-1P
123671-35-2P 123671-36-3P 123671-37-4P
123671-38-5P 123671-39-6P 123671-40-9P
123671-41-0P 123671-42-1P 123671-45-4P
123672-61-7P
(prepn. of, as antiulcer and cardiovascular agent)
RN 123585-81-9 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[(1E,3R)-3-hydroxy-3-phenyl-1-propenyl]-, (1R,2R,3aS,8bS)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.

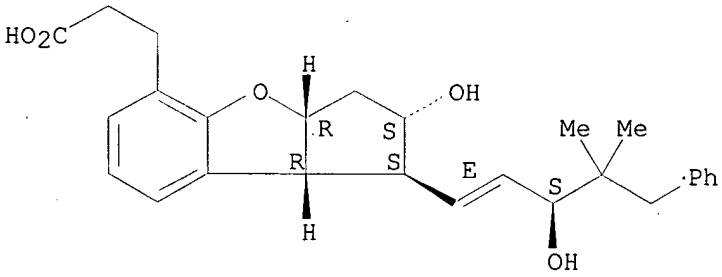


RN 123585-82-0 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)- (9CI) (CA INDEX NAME)



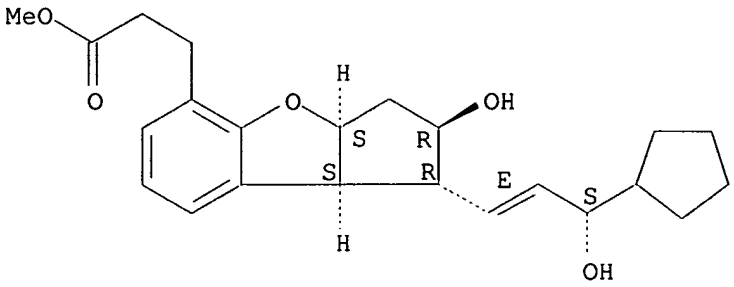
RN 123585-83-1 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4,4-dimethyl-5-phenyl-1-pentenyl)-, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



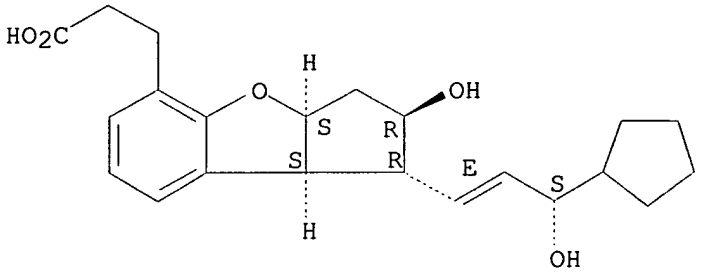
RN 123586-30-1 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclopentyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



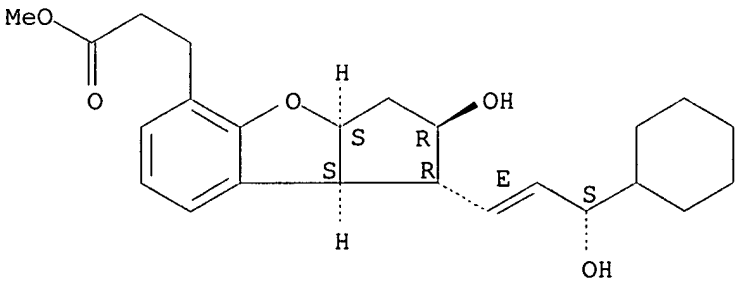
RN 123586-31-2 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclopentyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



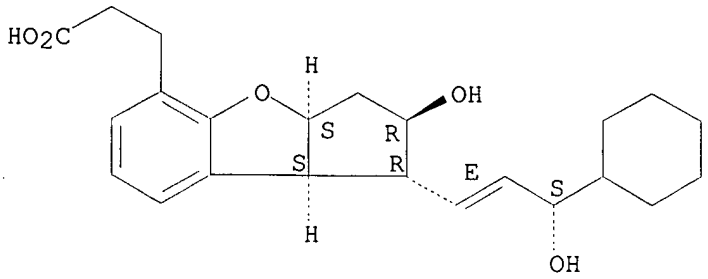
RN 123586-32-3 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclohexyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



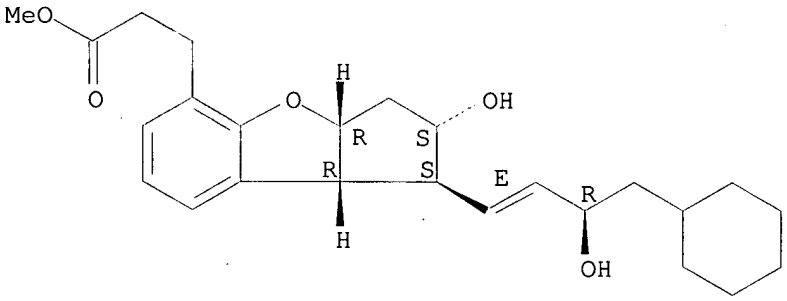
RN 123586-33-4 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[(1E,3R)-3-cyclohexyl-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, (1S,2S,3aR,8bR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



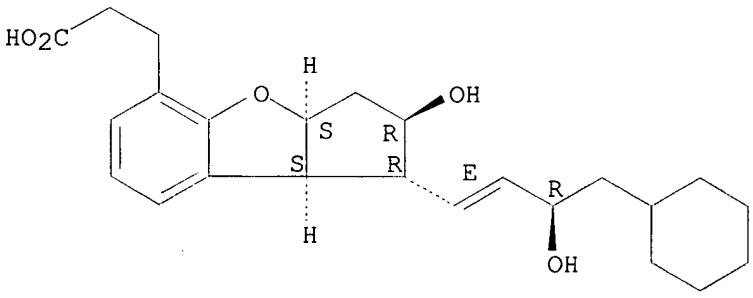
RN 123586-34-5 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(4-cyclohexyl-3-hydroxy-1-butenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



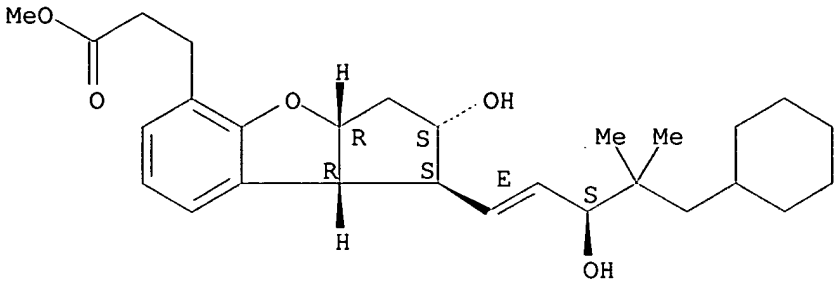
RN 123586-35-6 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(4-cyclohexyl-3-hydroxy-1-butenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



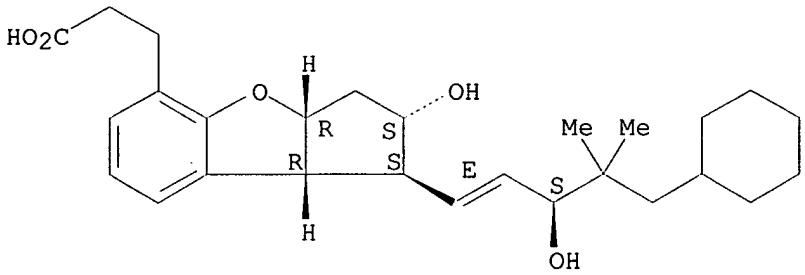
RN 123586-36-7 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(5-cyclohexyl-3-hydroxy-4,4-dimethyl-1-pentenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



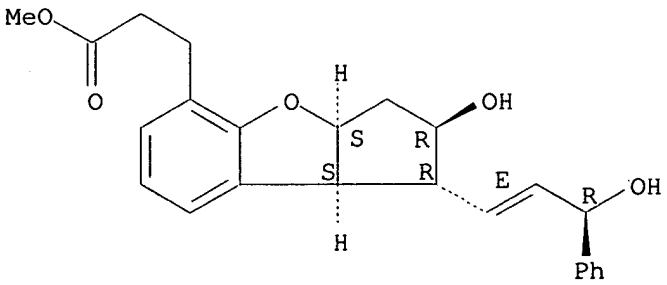
RN 123586-37-8 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(5-cyclohexyl-3-hydroxy-4,4-dimethyl-1-pentenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



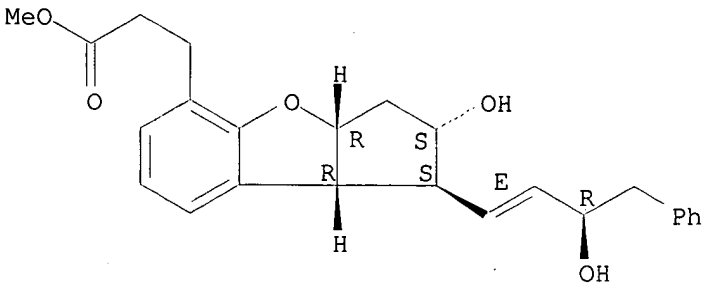
RN 123586-38-9 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-3-phenyl-1-propenyl)-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



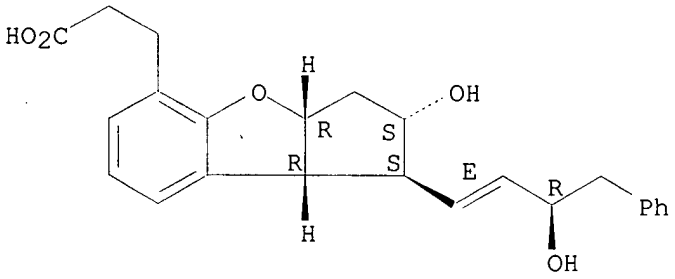
RN 123586-39-0 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-phenyl-1-butenyl)-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



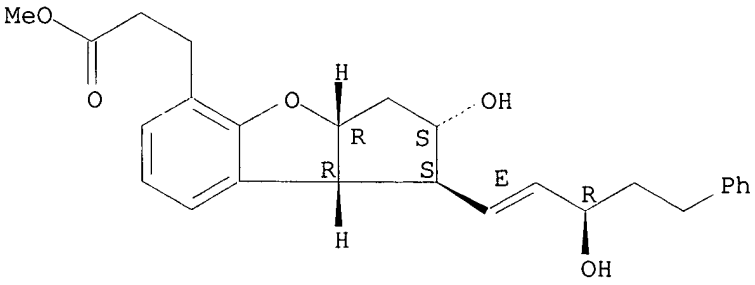
RN 123586-40-3 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-phenyl-1-butenyl)-, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



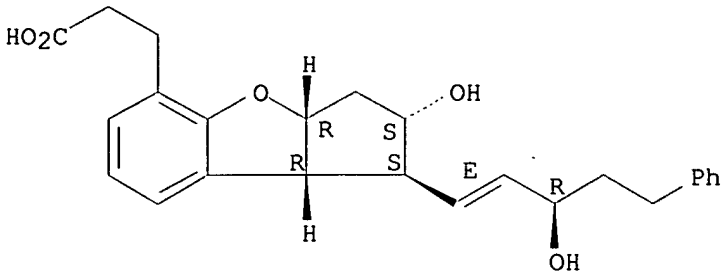
RN 123586-41-4 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



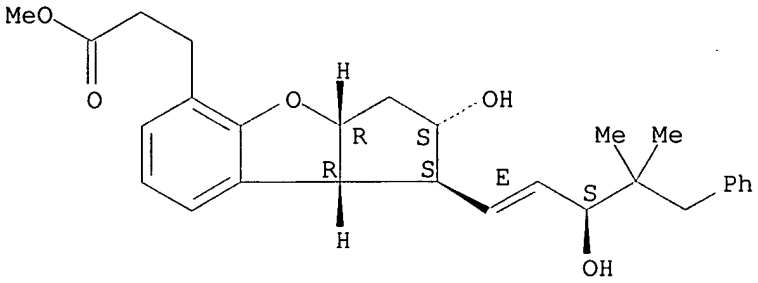
RN 123586-42-5 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



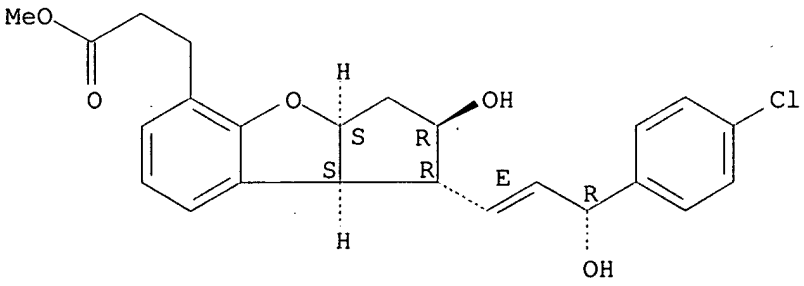
RN 123586-43-6 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4,4-dimethyl-5-phenyl-1-pentenyl)-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



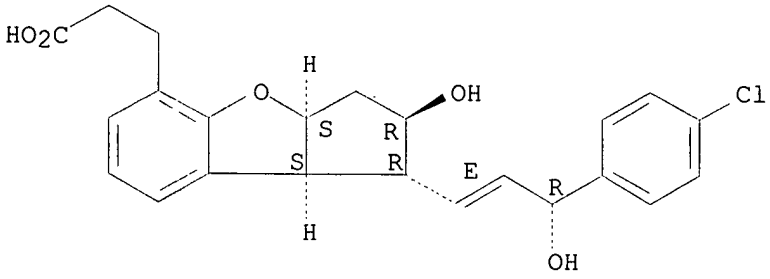
RN 123586-44-7 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



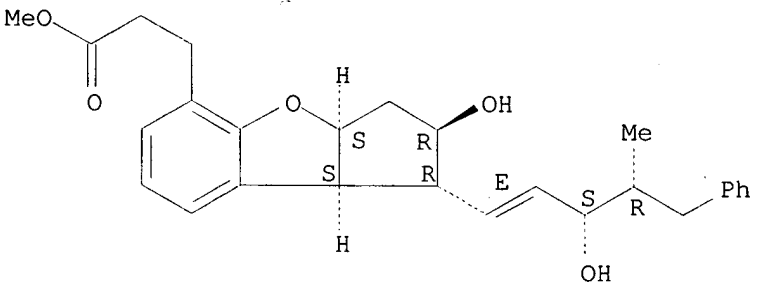
RN 123586-45-8 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



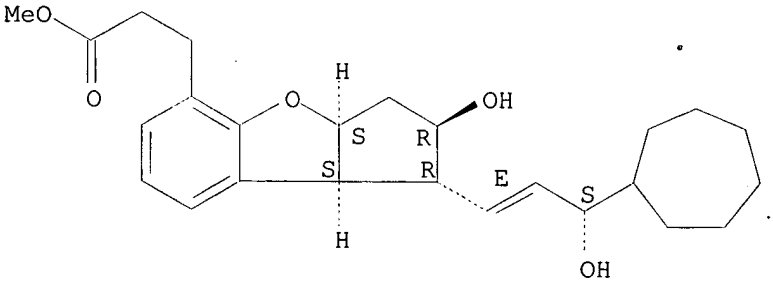
RN 123586-46-9 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, methyl ester, [1R-[1.alpha.(1E,3S*,4R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



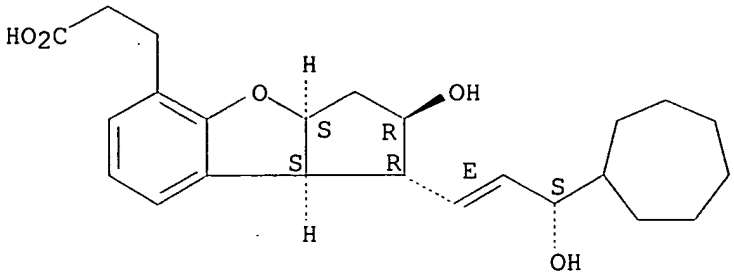
RN 123586-64-1 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cycloheptyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



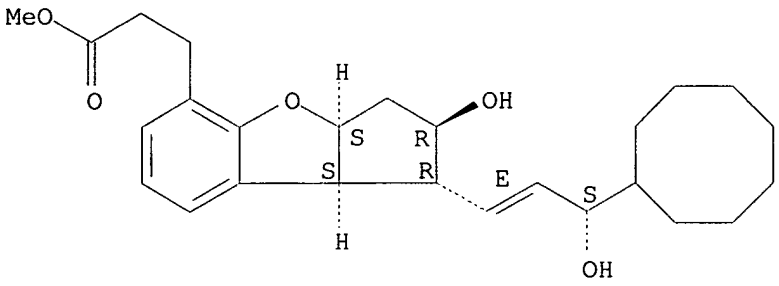
RN 123586-65-2 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cycloheptyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



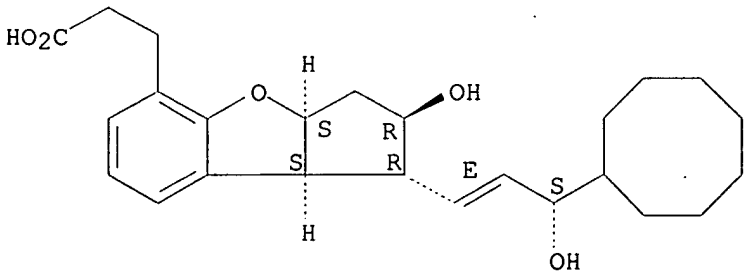
RN 123586-66-3 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclooctyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



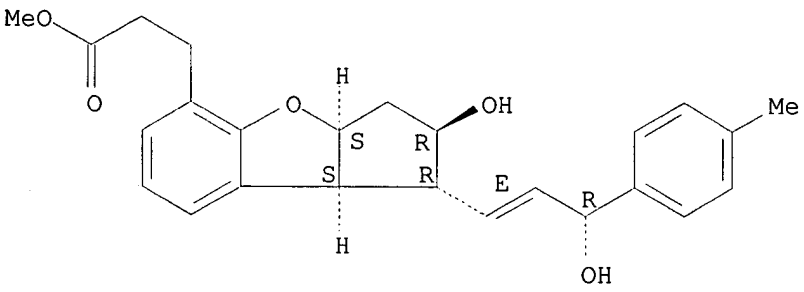
RN 123586-67-4 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclooctyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



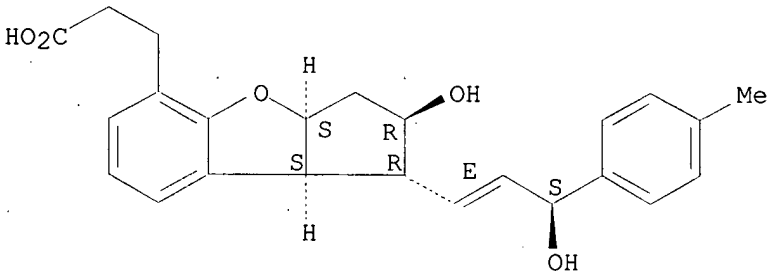
RN 123586-68-5 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-methylphenyl)-1-propenyl]-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

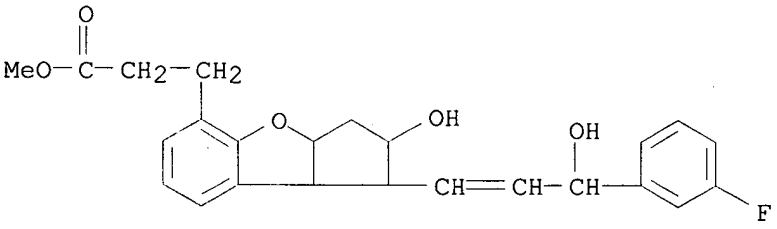


RN 123586-69-6 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-methylphenyl)-1-propenyl]-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

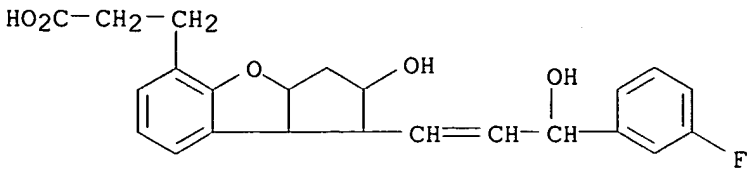
Absolute stereochemistry.
Double bond geometry as shown.



RN 123586-70-9 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

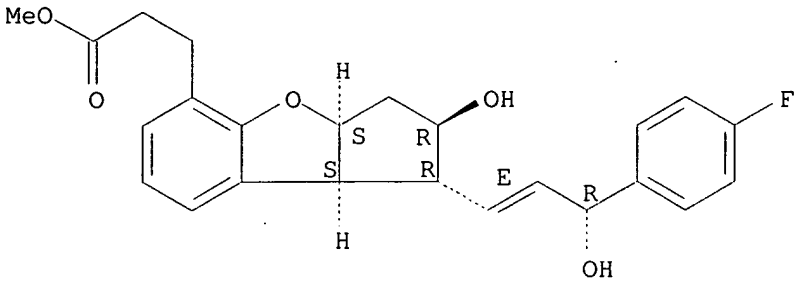


RN 123586-71-0 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)



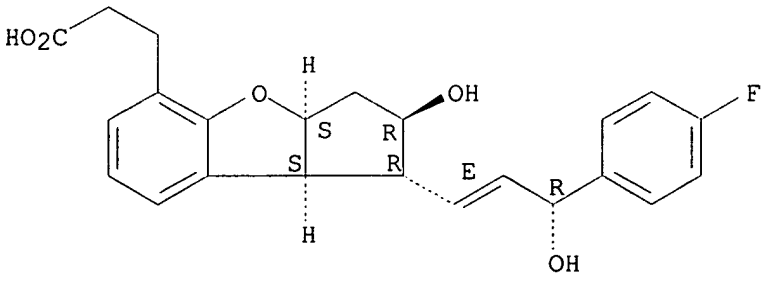
RN 123586-72-1 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



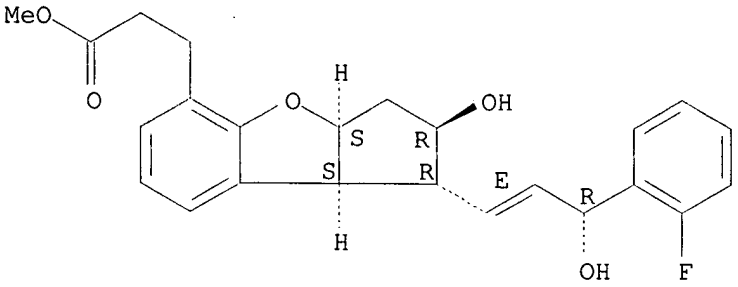
RN 123586-73-2 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



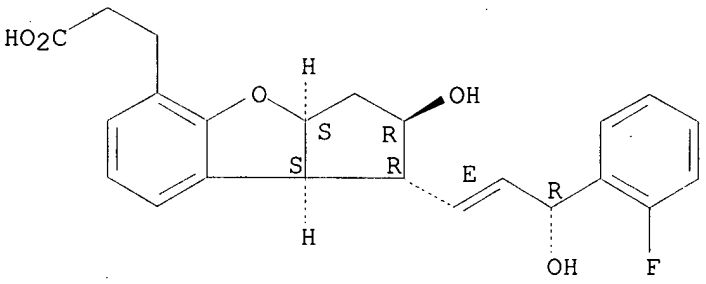
RN 123586-74-3 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



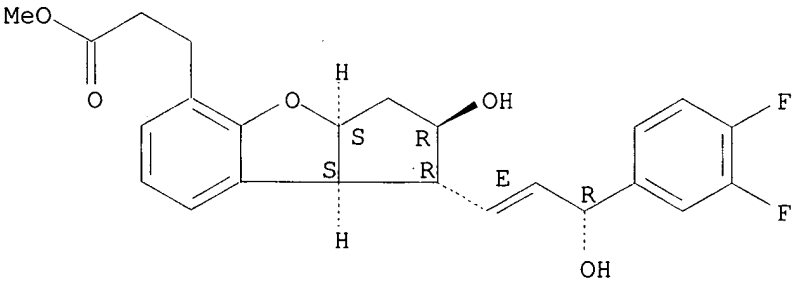
RN 123586-75-4 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



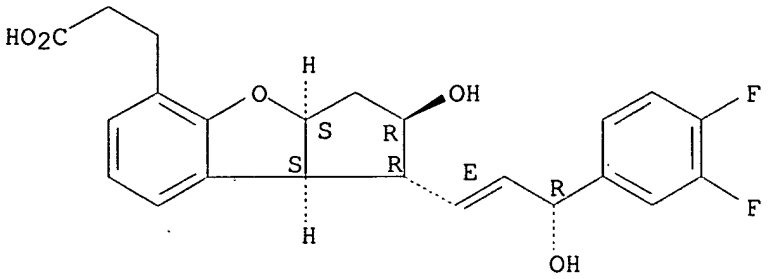
RN 123586-76-5 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3,4-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



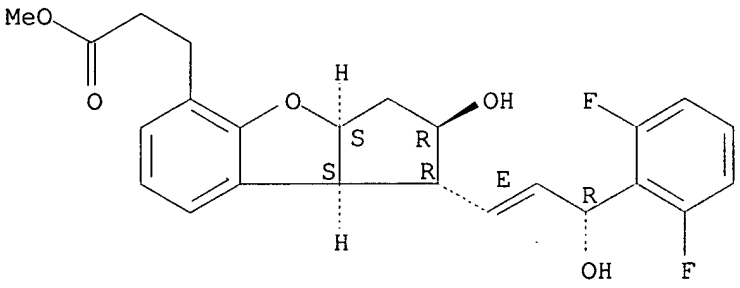
RN 123586-77-6 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3,4-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



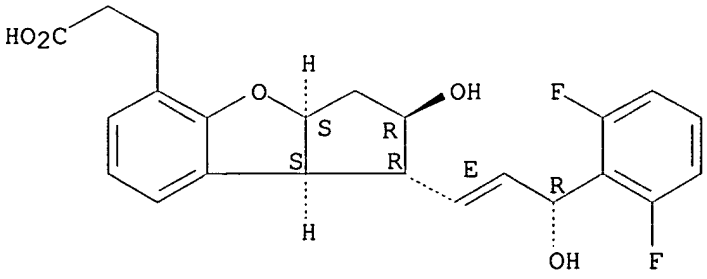
RN 123586-78-7 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2,6-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



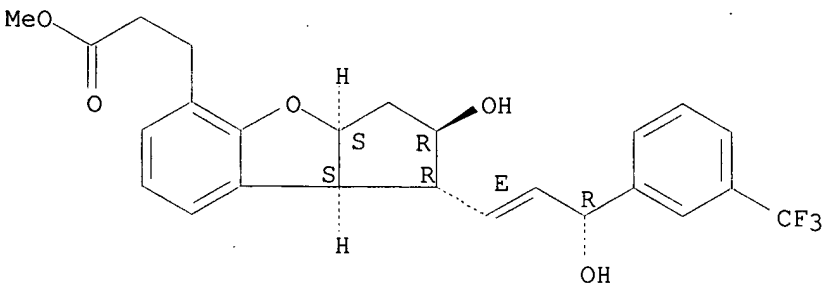
RN 123586-79-8 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2,6-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



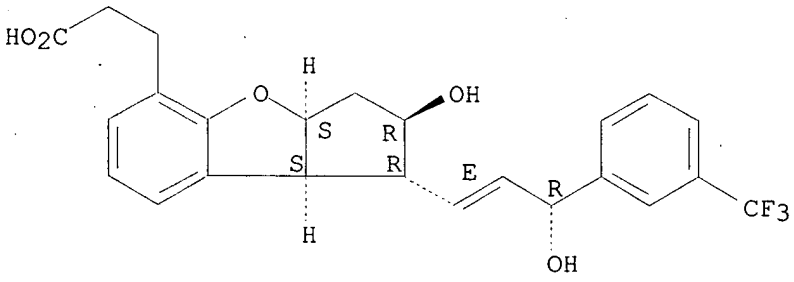
RN 123586-80-1 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-[3-(trifluoromethyl)phenyl]-1-propenyl]-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



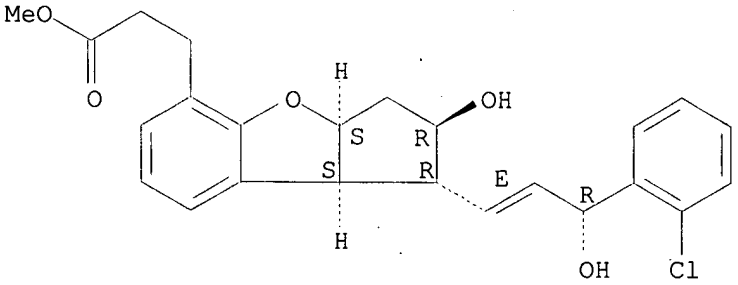
RN 123586-81-2 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-[3-(trifluoromethyl)phenyl]-1-propenyl]-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



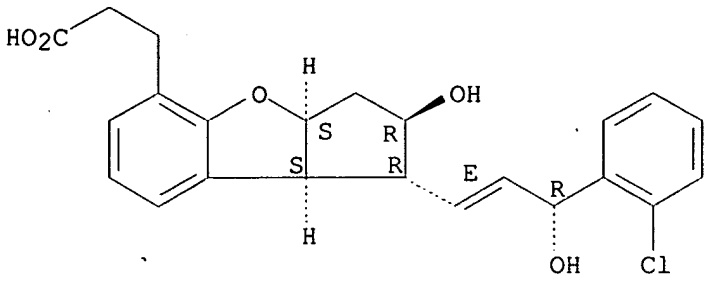
RN 123586-82-3 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



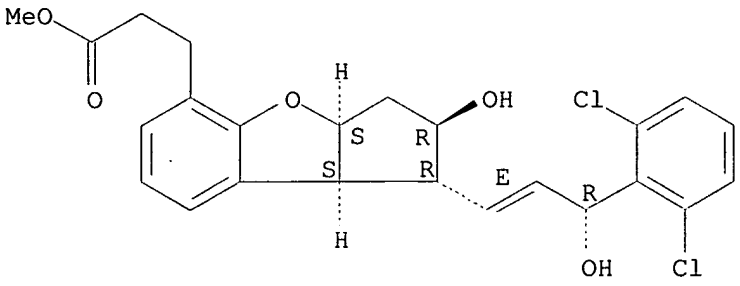
RN 123586-83-4 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



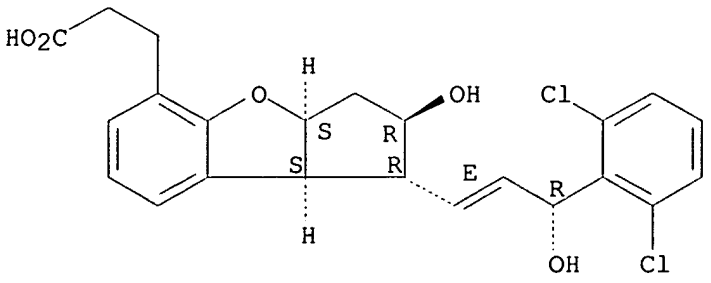
RN 123586-84-5 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2,6-dichlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



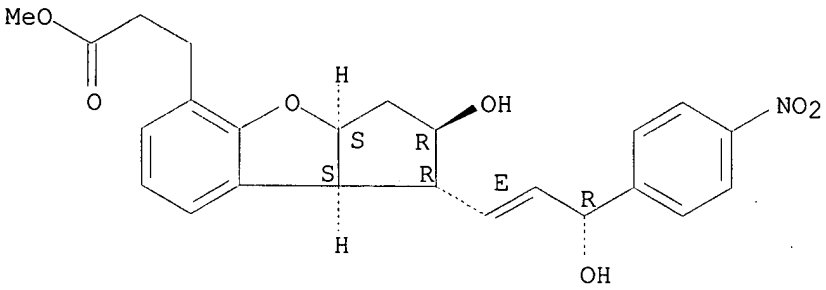
RN 123586-85-6 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2,6-dichlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



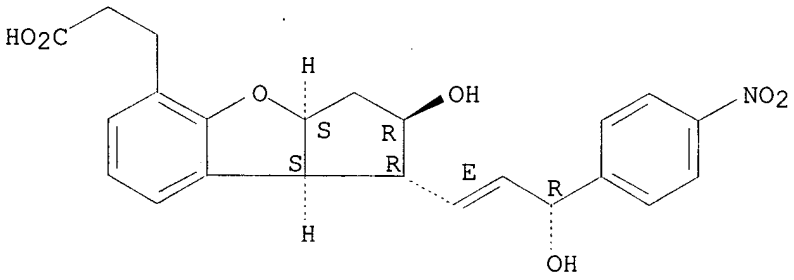
RN 123586-86-7 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-nitrophenyl)-1-propenyl]-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



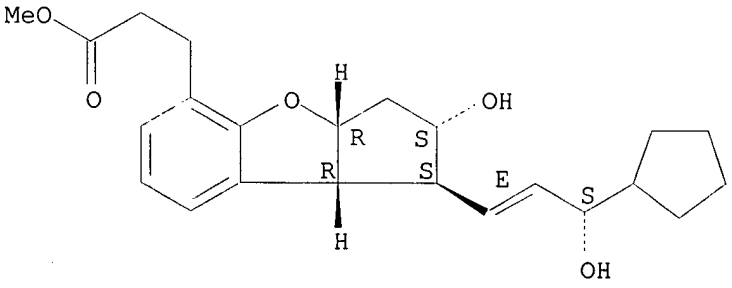
RN 123586-87-8 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-nitrophenyl)-1-propenyl]-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



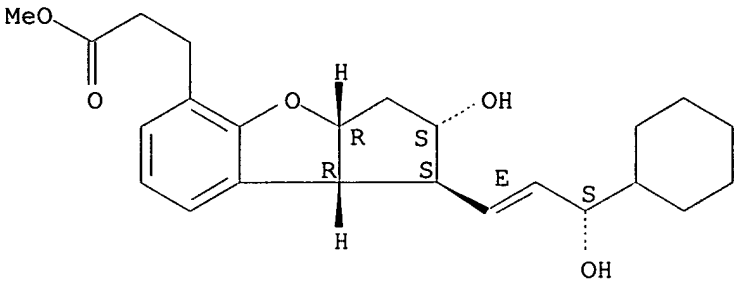
RN 123670-73-5 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclopentyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



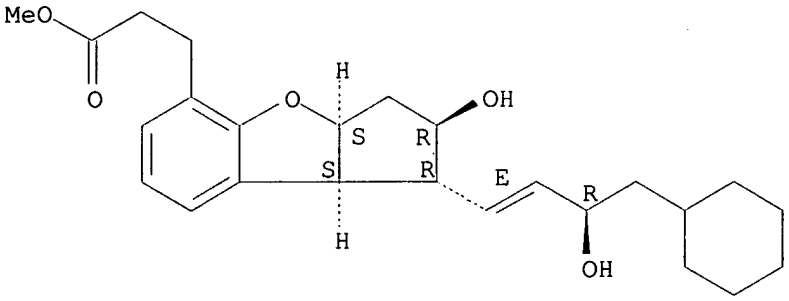
RN 123670-74-6 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclohexyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



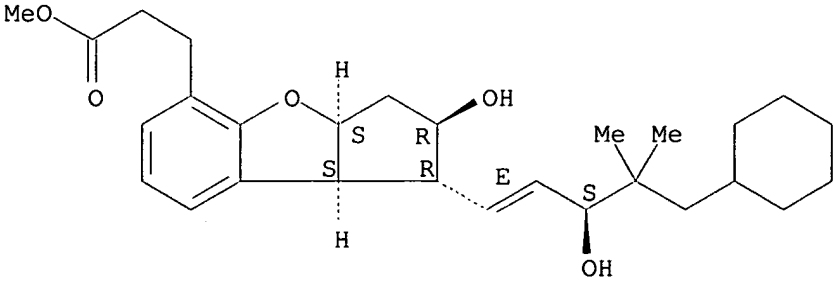
RN 123670-75-7 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(4-cyclohexyl-3-hydroxy-1-butenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



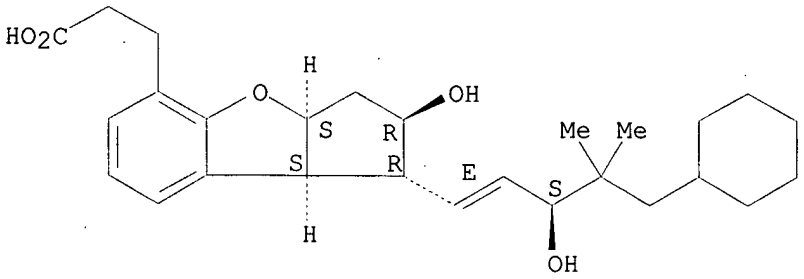
RN 123670-76-8 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(5-cyclohexyl-3-hydroxy-4,4-dimethyl-1-pentenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



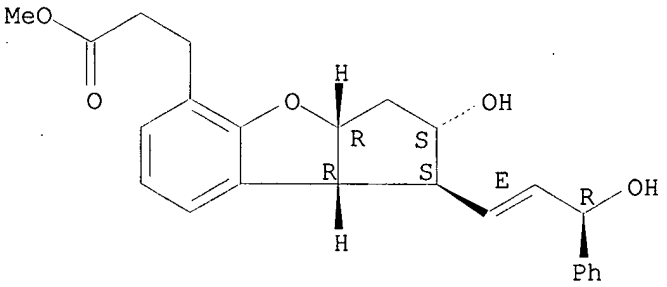
RN 123670-77-9 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(5-cyclohexyl-3-hydroxy-4,4-dimethyl-1-pentenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



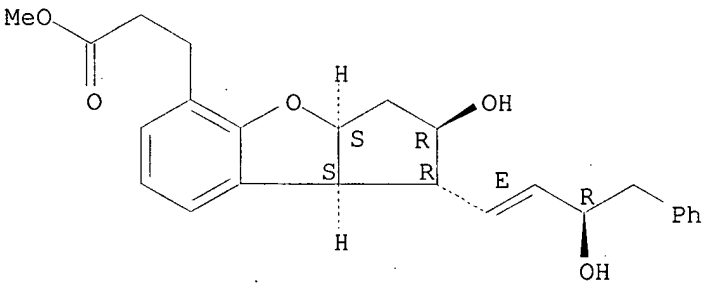
RN 123670-78-0 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-3-phenyl-1-propenyl)-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



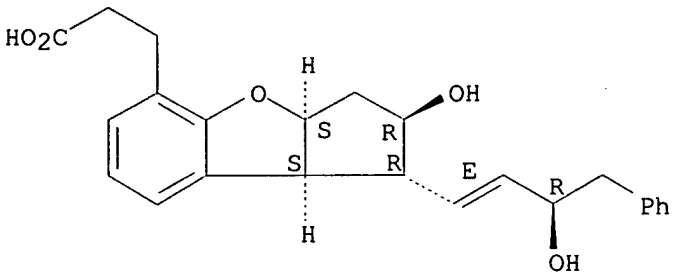
RN 123670-79-1 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-phenyl-1-butenyl)-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



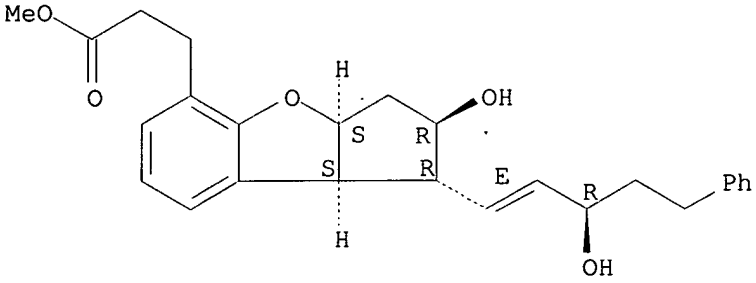
RN 123670-80-4 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-phenyl-1-butenyl)-, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



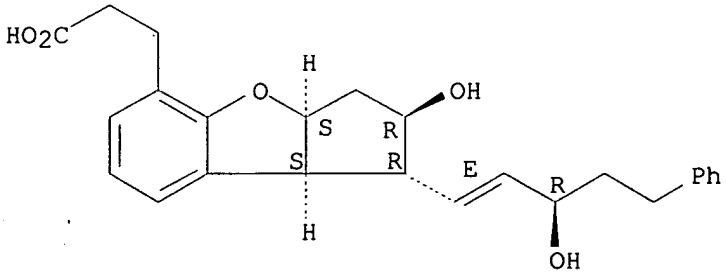
RN 123670-81-5 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, methyl ester, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



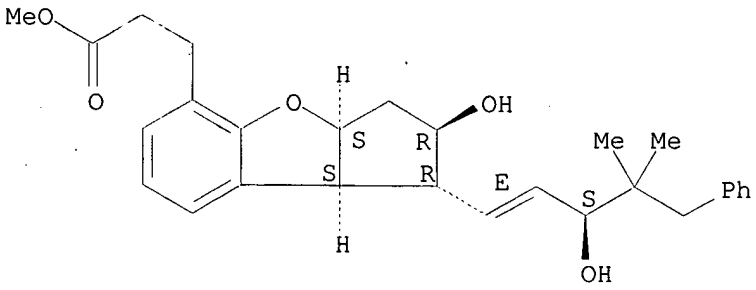
RN 123670-82-6 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, [1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



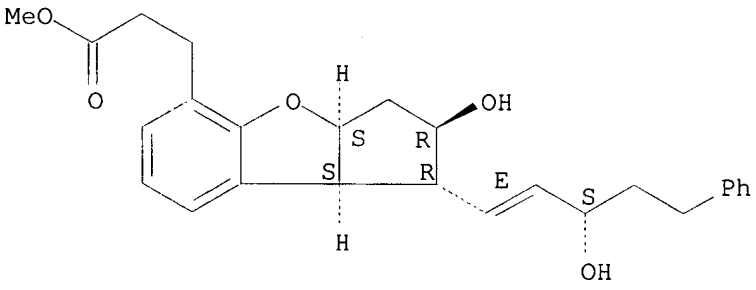
RN 123670-83-7 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4,4-dimethyl-5-phenyl-1-pentenyl)-, methyl ester, [1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



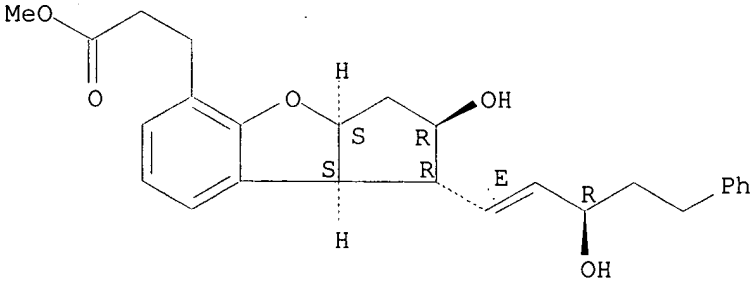
RN 123670-84-8 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



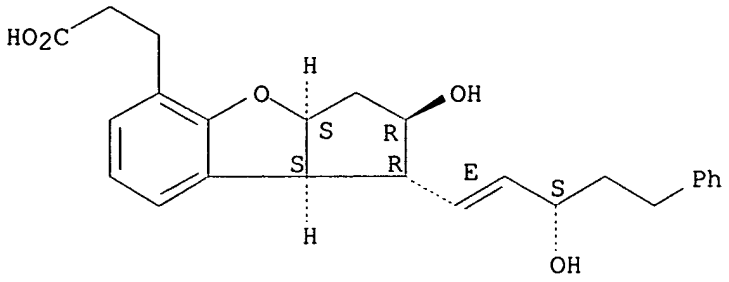
RN 123670-85-9 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



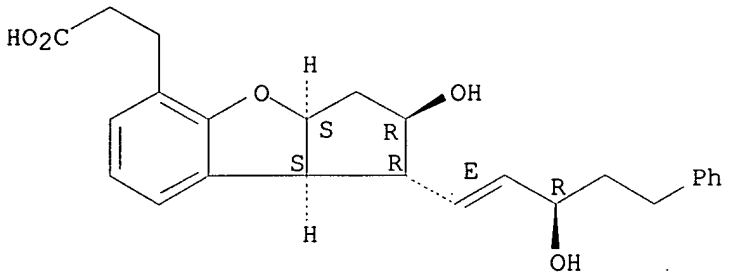
RN 123670-86-0 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



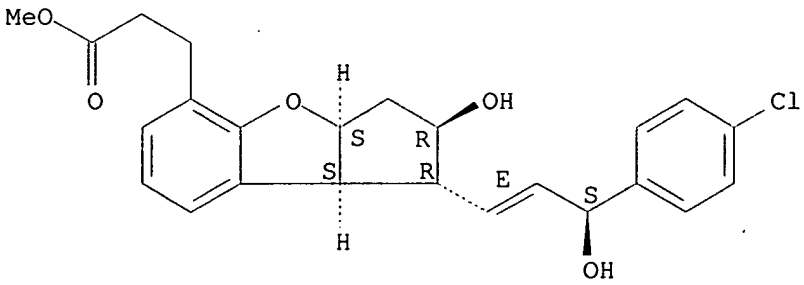
RN 123670-87-1 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-5-phenyl-1-pentenyl)-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



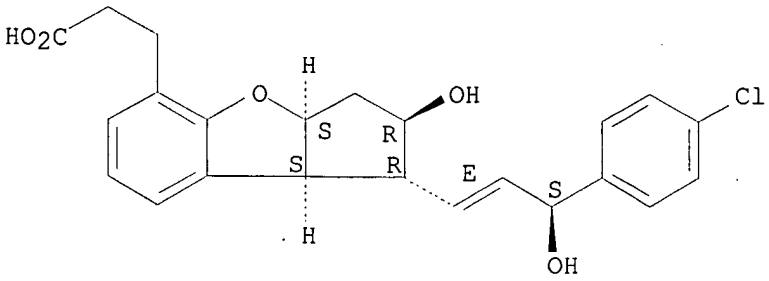
RN 123670-88-2 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



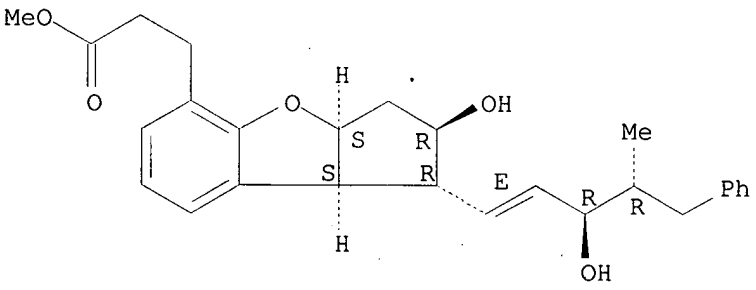
RN 123670-89-3 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



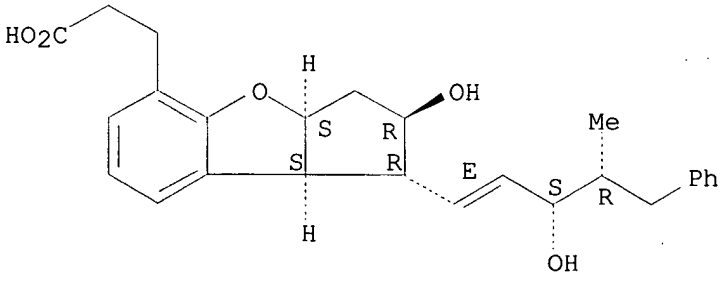
RN 123670-90-6 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, methyl ester, [1R-[1.alpha.(1E,3R*,4R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



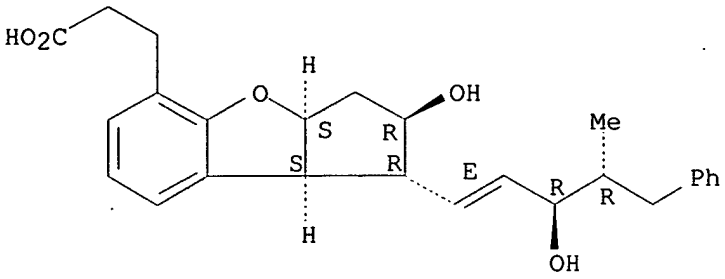
RN 123670-91-7 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, [1R-[1.alpha.(1E,3S*,4R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

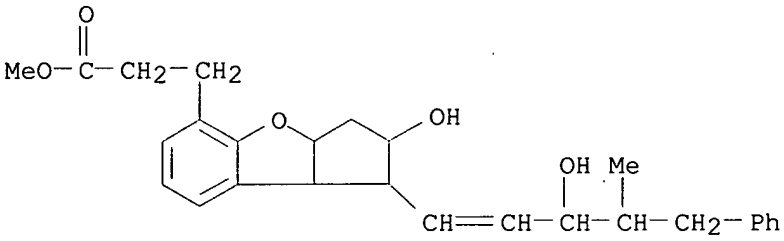


RN 123670-92-8 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, [1R-[1.alpha.(1E,3R*,4R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

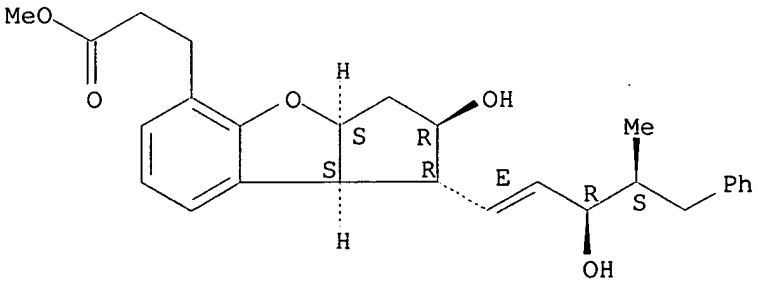


RN 123670-93-9 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, methyl ester, [1R-[1.alpha.(1E,3S*,5S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

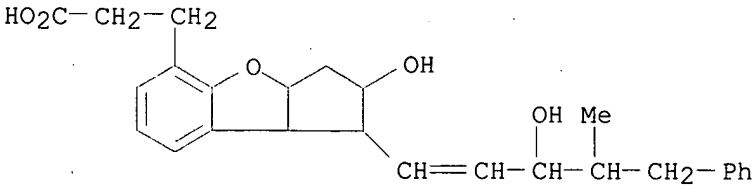


RN 123670-94-0 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, methyl ester, [1R-[1.alpha.(1E,3R*,4S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

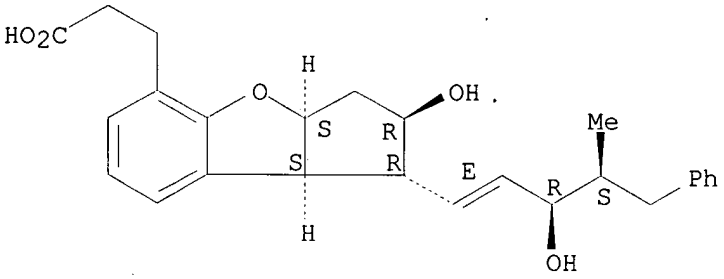


RN 123670-95-1 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, [1R-[1.alpha.(1E,3S*,5S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)



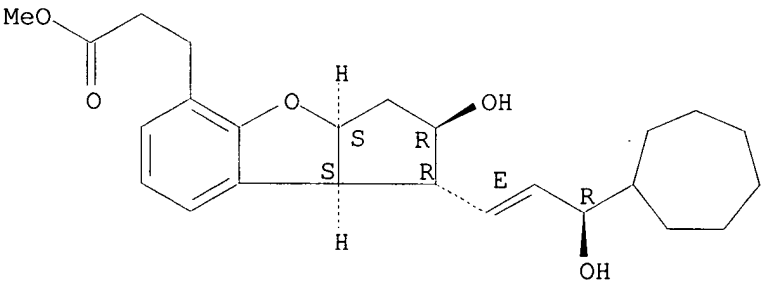
RN 123670-96-2 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-5-phenyl-1-pentenyl)-, [1R-[1.alpha.(1E,3R*,4S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



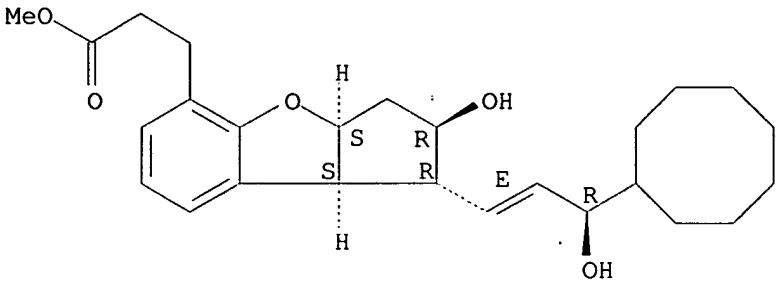
RN 123671-25-0 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cycloheptyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



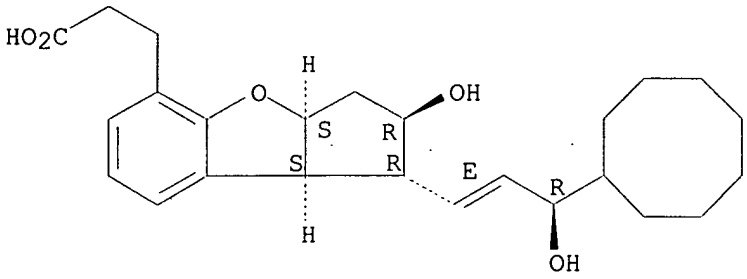
RN 123671-26-1 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclooctyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



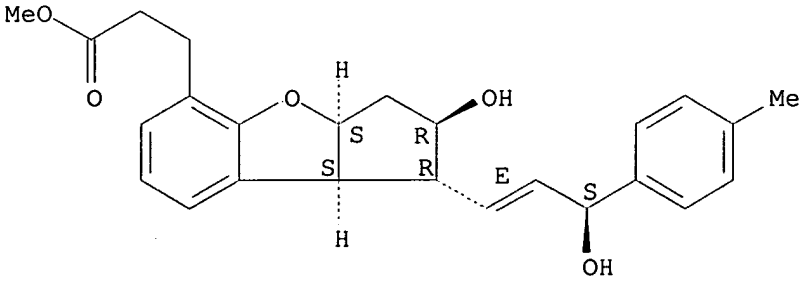
RN 123671-27-2 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-(3-cyclooctyl-3-hydroxy-1-propenyl)-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



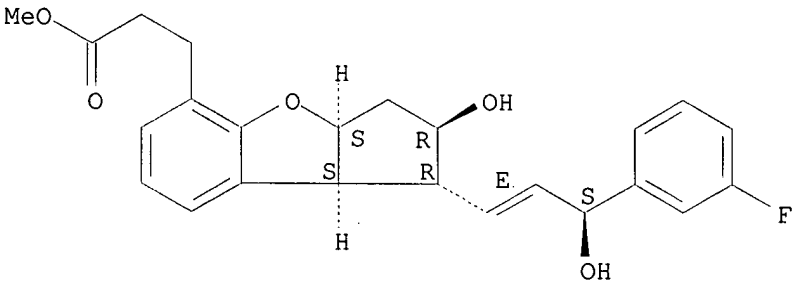
RN 123671-28-3 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-methylphenyl)-1-propenyl]-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



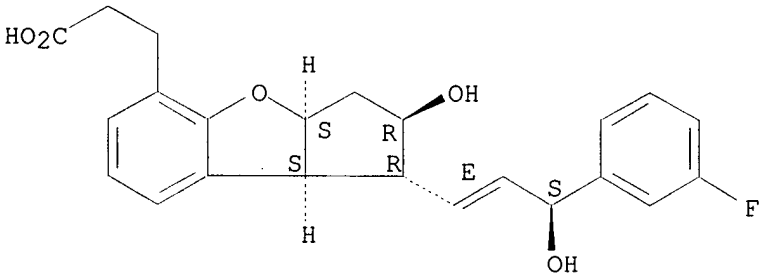
RN 123671-29-4 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



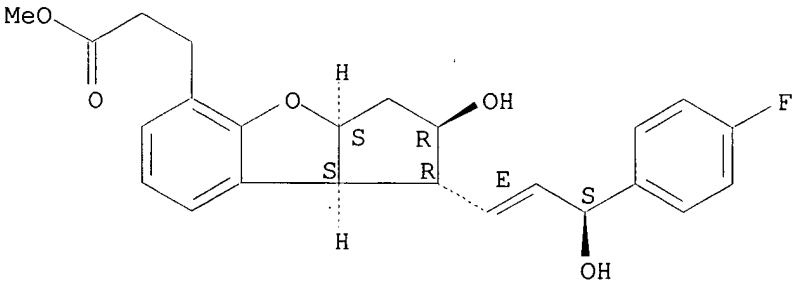
RN 123671-30-7 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



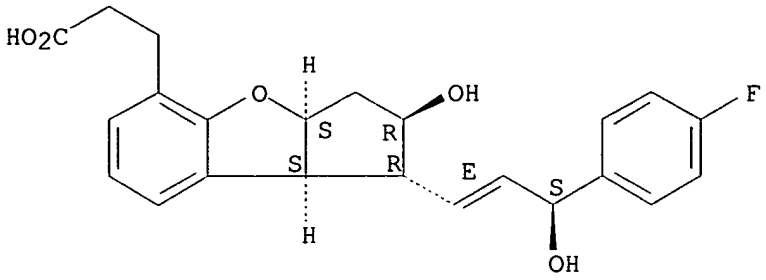
RN 123671-31-8 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



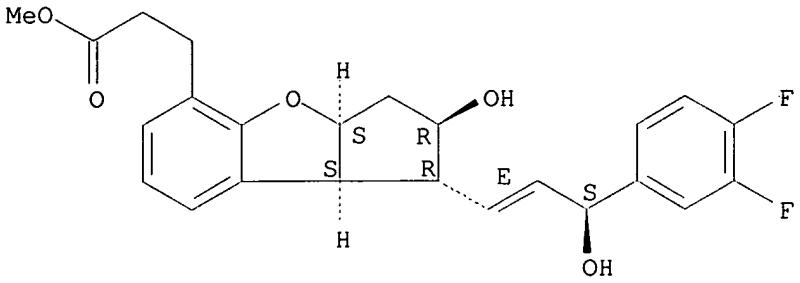
RN 123671-32-9 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(4-fluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



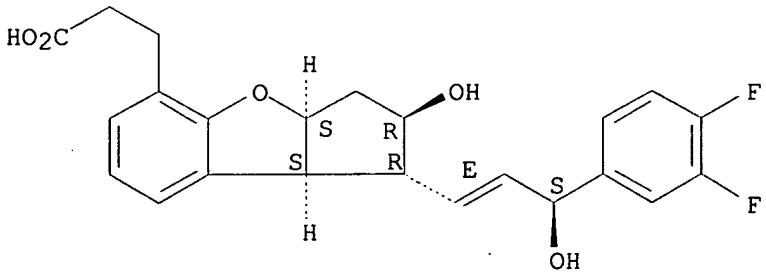
RN 123671-33-0 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3,4-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



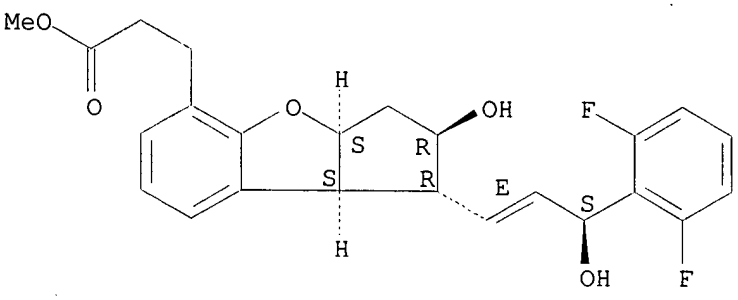
RN 123671-34-1 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(3,4-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



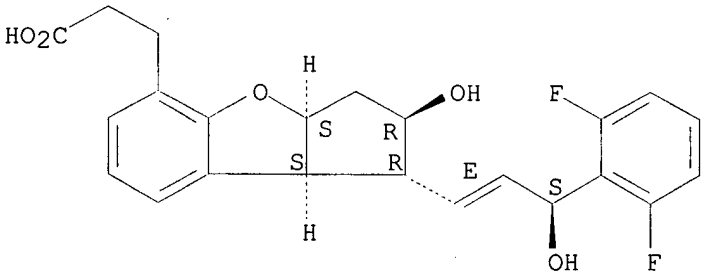
RN 123671-35-2 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2,6-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



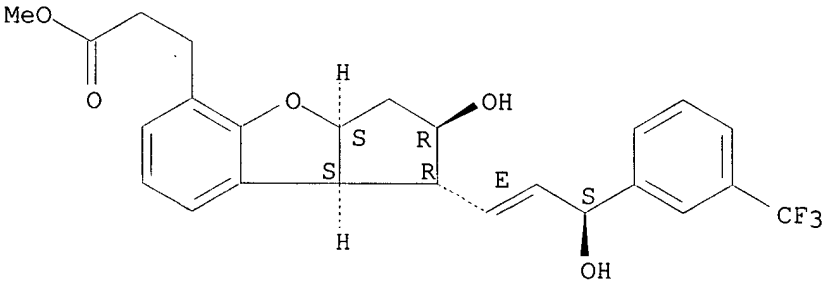
RN 123671-36-3 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2,6-difluorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



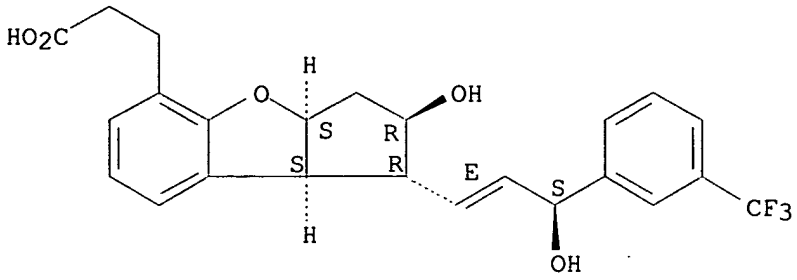
RN 123671-37-4 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-[3-(trifluoromethyl)phenyl]-1-propenyl]-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



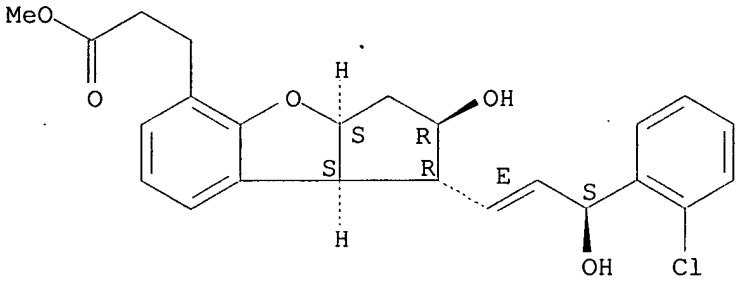
RN 123671-38-5 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-[3-(trifluoromethyl)phenyl]-1-propenyl]-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



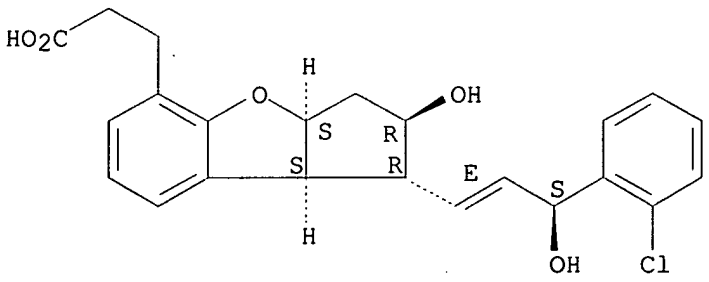
RN 123671-39-6 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



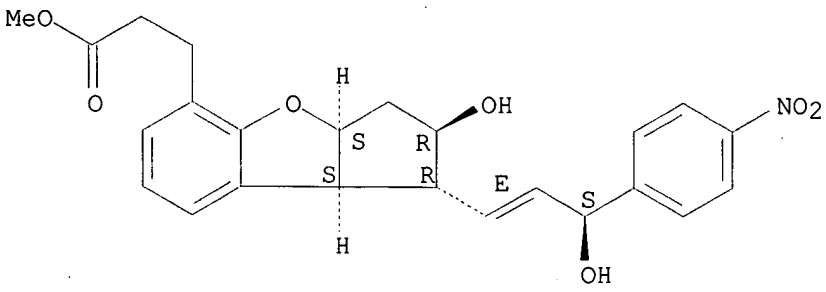
RN 123671-40-9 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[3-(2-chlorophenyl)-3-hydroxy-1-propenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



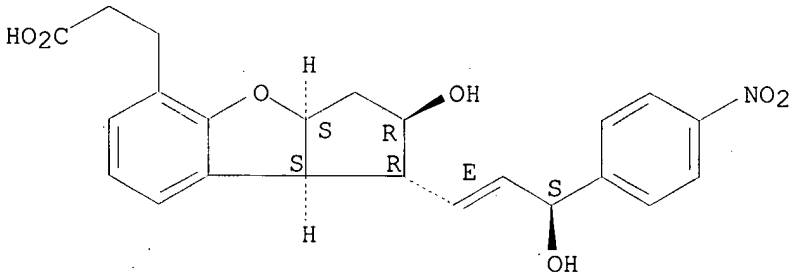
RN 123671-41-0 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-nitrophenyl)-1-propenyl]-, methyl ester, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



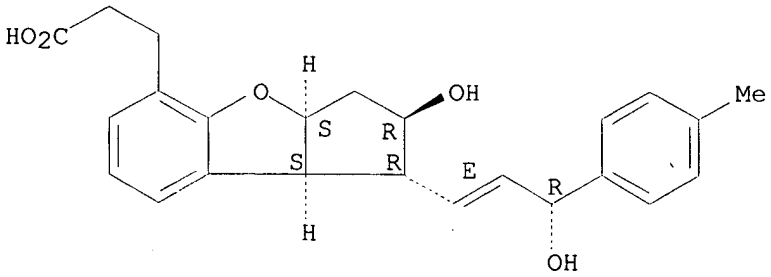
RN 123671-42-1 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-nitrophenyl)-1-propenyl]-, [1R-[1.alpha.(1E,3S*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



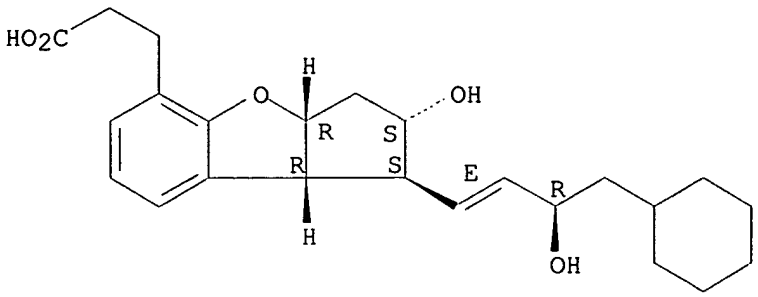
RN 123671-45-4 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[3-hydroxy-3-(4-methylphenyl)-1-propenyl]-, [1R-[1.alpha.(1E,3R*),2.beta.,3a.alpha.,8b.alpha.]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 123672-61-7 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[(1E,3R)-4-cyclohexyl-3-hydroxy-1-butenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, (1S,2S,3aR,8bR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



FILE 'CAOLD' ENTERED AT 15:28:40 ON 18 MAR 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

L81		STR
L83	1411	SEA FILE=REGISTRY SSS FUL L81
L84		STR
L86	94	SEA FILE=REGISTRY SUB=L83 SSS FUL L84
L89	0	SEA FILE=CAOLD ABB=ON L86

FILE 'HOME' ENTERED AT 15:28:40 ON 18 MAR 2002

=> fil reg; d stat que 183; fil capl; d que nos 192;s 192 not (124 or 177); fil medl; d que nos 194
FILE 'REGISTRY' ENTERED AT 16:01:24 ON 18 MAR 2002
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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

STRUCTURE FILE UPDATES: 17 MAR 2002 HIGHEST RN 401569-84-4
DICTIONARY FILE UPDATES: 17 MAR 2002 HIGHEST RN 401569-84-4

TSCA INFORMATION NOW CURRENT THROUGH July 7, 2001

Please note that search-term pricing does apply when conducting SmartSELECT searches.

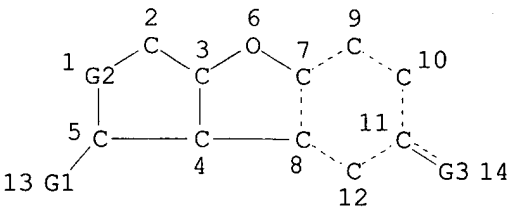
Crossover limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the H/Z/CA/CAplus files between 12/27/01 and 1/23/02. Use of the P indicator in online and SDI searches during this period, either directly appended to a CAS Registry Number or by qualifying an L-number with /P, may have yielded incomplete results. As of 1/23/02, the situation has been resolved. Also, note that searches conducted using the PREP role indicator were not affected.

Customers running searches and/or SDIs in the H/Z/CA/CAplus files incorporating CAS Registry Numbers with the P indicator between 12/27/01 and 1/23/02, are encouraged to re-run these strategies. Contact the CAS Help Desk at 1-800-848-6533 in North America or 1-614-447-3698, worldwide, or send an e-mail to help@cas.org for further assistance or to receive a credit for any duplicate searches.

L81 STR



CH2—CH2 C≡C CH≡C
@15 16 @17 18 @19 20

CH—O Ak @23 CH=O
@21 22 @24 25

VAR G1=15/17/19
VAR G2=CH2/21
VAR G3=H/23/X/OME/NO2/24
NODE ATTRIBUTES:
CONNECT IS E3 RC AT 9
CONNECT IS E1 RC AT 23
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

same full file search as before

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 25

STEREO ATTRIBUTES: NONE
L83 1411 SEA FILE=REGISTRY SSS FUL L81

100.0% PROCESSED 3131 ITERATIONS 1411 ANSWERS
SEARCH TIME: 00.00.03

FILE 'CAPLUS' ENTERED AT 16:01:24 ON 18 MAR 2002
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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 18 Mar 2002 VOL 136 ISS 12
FILE LAST UPDATED: 17 Mar 2002 (20020317/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the CAS files between 12/27/01 and 1/23/02. As of 1/23/02, the situation has been resolved. Searches and/or SDIs in the H/Z/CA/CAplus files incorporating CAS Registry Numbers with the P indicator executed between 12/27/01 and 1/23/02 may be incomplete. See the NEWS message on this topic for more information.

L6	1586	SEA FILE=CAPLUS ABB=ON	PROSTANOID RECEPTORS+OLD/CT
L7	412	SEA FILE=CAPLUS ABB=ON	EP4
L8	230	SEA FILE=CAPLUS ABB=ON	L6(L)L7
L15	1685	SEA FILE=CAPLUS ABB=ON	ALOPECIA/CT
L16	2886	SEA FILE=CAPLUS ABB=ON	HAIR(L)(LOSS OR GROW?)/OBI
L17	709	SEA FILE=CAPLUS ABB=ON	BALD?/OBI
L18	15300	SEA FILE=CAPLUS ABB=ON	HAIR PREPARATIONS+NT/CT
L19	30428	SEA FILE=CAPLUS ABB=ON	HAIR/OBI
L20	97366	SEA FILE=CAPLUS ABB=ON	62/SC,SX
L21	37765	SEA FILE=CAPLUS ABB=ON	COSMETIC#/OBI
L81		STR	
L83	1411	SEA FILE=REGISTRY SSS FUL L81	
L91	231	SEA FILE=CAPLUS ABB=ON	L83
L92	4	SEA FILE=CAPLUS ABB=ON	L91 AND (L8 OR (L15 OR L16 OR L17 OR L18 OR L19 OR L20 OR L21))

previously printed

L107 2 L92 NOT (L24 OR L77)

FILE 'MEDLINE' ENTERED AT 16:01:25 ON 18 MAR 2002

FILE LAST UPDATED: 17 MAR 2002 (20020317/UP). FILE COVERS 1958 TO DATE.

On April 22, 2001, MEDLINE was reloaded. See HELP RLOAD for details.

MEDLINE now contains IN-PROCESS records. See HELP CONTENT for details.

MEDLINE is now updated 4 times per week. A new current-awareness alert frequency (EVERYUPDATE) is available. See HELP UPDATE for more information.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2001 vocabulary. Enter HELP THESAURUS for details.

The OLDMEDLINE file segment now contains data from 1958 through 1965. Enter HELP CONTENT for details.

Left, right, and simultaneous left and right truncation are available in the Basic Index. See HELP SFIELDS for details.

THIS FILE CONTAINS CAS REGISTRY NUMBERS FOR EASY AND ACCURATE SUBSTANCE IDENTIFICATION.

L25	745	SEA FILE=MEDLINE ABB=ON	RECEPTORS, PROSTAGLANDIN E/CT
L26	200	SEA FILE=MEDLINE ABB=ON	L25 AND EP4
L32	6017	SEA FILE=MEDLINE ABB=ON	ALOPECIA+NT/CT
L33	14531	SEA FILE=MEDLINE ABB=ON	HAIR+NT/CT
L81		STR	
L83	1411	SEA FILE=REGISTRY SSS FUL L81	
L93	153	SEA FILE=MEDLINE ABB=ON	L83
L94	0	SEA FILE=MEDLINE ABB=ON	L93 AND (L26 OR L32 OR L33)

=> fil embase; d que nos l97; fil drugu; d que nos l99
FILE 'EMBASE' ENTERED AT 16:01:55 ON 18 MAR 2002

FILE COVERS 1974 TO 14 Mar 2002 (20020314/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

L35	265	SEA FILE=EMBASE ABB=ON	PROSTAGLANDIN E RECEPTOR/CT
L36	1	SEA FILE=EMBASE ABB=ON	PROSTAGLANDIN EP 4 RECEPTOR/CT
L37	10	SEA FILE=EMBASE ABB=ON	PROSTAGLANDIN EP4 RECEPTOR/CT
L39	3163	SEA FILE=EMBASE ABB=ON	HAIR GROWTH/CT OR HAIR LOSS/CT
L40	11728	SEA FILE=EMBASE ABB=ON	ALOPECIA+NT/CT
L41	462	SEA FILE=EMBASE ABB=ON	EP4 OR EP 4
L42	133	SEA FILE=EMBASE ABB=ON	(L35 AND L41) OR L36 OR L37
L81		STR	
L83	1411	SEA FILE=REGISTRY SSS FUL L81	
L96	296	SEA FILE=EMBASE ABB=ON	L83
L97	0	SEA FILE=EMBASE ABB=ON	L96 AND (L42 OR L39 OR L40)

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FILE 'DRUGU' ENTERED AT 16:01:56 ON 18 MAR 2002
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FILE LAST UPDATED: 18 MAR 2002      <20020318/UP>
>>>  DERWENT DRUG FILE (SUBSCRIBER)  <<<

>>>  SDI'S MAY BE RUN WEEKLY OR MONTHLY AS OF JUNE 2001.  <<<
>>>  (WEEKLY IS THE DEFAULT). FOR PRICING INFORMATION     <<<
>>>  SEE HELP COST                                        <<<

>>>  FILE COVERS 1983 TO DATE  <<<
>>>  THESAURUS AVAILABLE IN /CT  <<<


L64       50207 SEA FILE=DRUGU ABB=ON  (PROSTAGLANDIN# OR PROSTANOID#)
L65         102 SEA FILE=DRUGU ABB=ON  EP4 OR EP 4
L69       11485 SEA FILE=DRUGU ABB=ON  BALD? OR ?ALOPEC? OR HAIR
L70           2 SEA FILE=DRUGU ABB=ON  ANTIALOPEC?
L71          50 SEA FILE=DRUGU ABB=ON  L64 AND L65
L81             STR
L83        1411 SEA FILE=REGISTRY SSS FUL L81
L98         133 SEA FILE=DRUGU ABB=ON  L83
L99           1 SEA FILE=DRUGU ABB=ON  L98 AND (L71 OR L69 OR L70)


=> fil uspatf; d que nos l106; d que nos l105
FILE 'USPATFULL' ENTERED AT 16:02:19 ON 18 MAR 2002
CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 14 Mar 2002 (20020314/PD)
FILE LAST UPDATED: 14 Mar 2002 (20020314/ED)
HIGHEST GRANTED PATENT NUMBER: US6357047
HIGHEST APPLICATION PUBLICATION NUMBER: US2002032920
CA INDEXING IS CURRENT THROUGH 14 Mar 2002 (20020314/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 14 Mar 2002 (20020314/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2001
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2001

>>>  USPAT2 is now available.  USPATFULL contains full text of the     <<<
>>>  original, i.e., the earliest published granted patents or         <<<
>>>  applications.  USPAT2 contains full text of the latest US         <<<
>>>  publications, starting in 2001, for the inventions covered in     <<<
>>>  USPATFULL.  A USPATFULL record contains not only the original     <<<
>>>  published document but also a list of any subsequent              <<<
>>>  publications.  The publication number, patent kind code, and      <<<
>>>  publication date for all the US publications for an invention     <<<
>>>  are displayed in the PI (Patent Information) field of USPATFULL   <<<
>>>  records and may be searched in standard search fields, e.g., /PN, <<<
>>>  /PK, etc.                                                         <<<

>>>  USPATFULL and USPAT2 can be accessed and searched together        <<<
>>>  through the new cluster USPATALL.  Type FILE USPATALL to          <<<
>>>  enter this cluster.                                               <<<
>>>                                                                    <<<
>>>  Use USPATALL when searching terms such as patent assignees,       <<<
>>>  classifications, or claims, that may potentially change from      <<<
>>>  the earliest to the latest publication.                           <<<

This file contains CAS Registry Numbers for easy and accurate
```

substance identification.

```
L81             STR
L83         1411 SEA FILE=REGISTRY SSS FUL L81
L100          30 SEA FILE=USPATFULL ABB=ON  L83
L101       44561 SEA FILE=USPATFULL ABB=ON  HAIR OR ?ALOPEC? OR BALD?
L106           5 SEA FILE=USPATFULL ABB=ON  L101 AND L100


L81             STR
L83         1411 SEA FILE=REGISTRY SSS FUL L81
L100          30 SEA FILE=USPATFULL ABB=ON  L83
L102       11894 SEA FILE=USPATFULL ABB=ON  PROSTAGLANDIN# OR PROSTANOID#
L104           9 SEA FILE=USPATFULL ABB=ON  L102 (5A)(EP4 OR EP 4)
L105           0 SEA FILE=USPATFULL ABB=ON  L100 AND L104

=> s l106 not l88
L109           5 L106 NOT L88
```

previously printed

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=> dup rem l107,l109,l99
FILE 'CAPLUS' ENTERED AT 16:03:01 ON 18 MAR 2002
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FILE 'USPATFULL' ENTERED AT 16:03:01 ON 18 MAR 2002
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FILE 'DRUGU' ENTERED AT 16:03:01 ON 18 MAR 2002
COPYRIGHT (C) 2002 DERWENT INFORMATION LTD
PROCESSING COMPLETED FOR L107
PROCESSING COMPLETED FOR L109
PROCESSING COMPLETED FOR L99
L110           8 DUP REM L107 L109 L99 (0 DUPLICATES REMOVED)
                 ANSWERS '1-2' FROM FILE CAPLUS
                 ANSWERS '3-7' FROM FILE USPATFULL
                 ANSWER '8' FROM FILE DRUGU

=> d ibib abs hitstr l110 1-7; d iall l110 8; fil hom

L110 ANSWER 1 OF 8  CAPLUS  COPYRIGHT 2002 ACS
ACCESSION NUMBER:         2000:666628  CAPLUS
DOCUMENT NUMBER:          133:247701
TITLE:                    Prostaglandin EP4 receptor agonist and treatment
                          method
INVENTOR(S):              Kumagai, Hiroki; Ochi, Yasuo; Hayashi, Ryoji
PATENT ASSIGNEE(S):       Toray Industries, Inc., Japan
SOURCE:                   PCT Int. Appl., 25 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
     ----------------  ----  --------      ---------------  --------
     WO 2000054808      A1   20000921      WO 2000-JP1556   20000315
         W:  CA, CN, JP, US
         RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
             PT, SE
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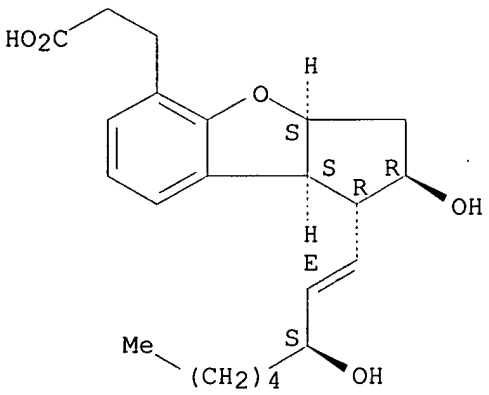
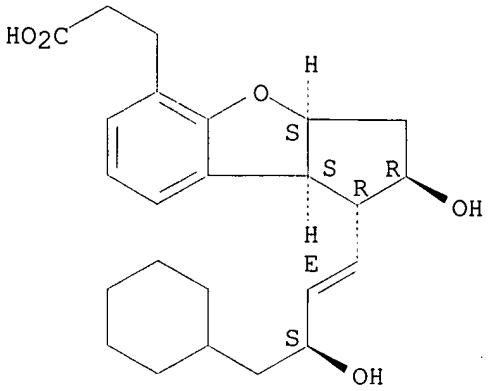
EP 1080728 A1 20010307 EP 2000-909634 20000315
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
PRIORITY APPLN. INFO.: JP 1999-69696 A 19990316
WO 2000-JP1556 W 20000315
OTHER SOURCE(S): MARPAT 133:247701
AB Provided is a prostaglandin EP4 receptor agonist contg. as the active ingredient a prostaglandin I2 deriv. This compd. binds strongly to prostaglandin EP4 receptor, which makes it useful as a pharmacol. tool for clarifying physiol. functions mediated by prostaglandin EP4 receptor or as a drug to be used in preventing/treating diseases in which prostaglandin EP4 receptor participates.
IT **295359-14-7D**, derivs. **295359-15-8**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prostaglandin EP4 receptor agonist for treating EP4 receptor-related diseases)
RN 295359-14-7 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-[(1E,3S)-3-hydroxy-1-octenyl]-, (1R,2R,3aS,8bS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 295359-15-8 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-propanoic acid, 1-[(1E,3S)-4-cyclohexyl-3-hydroxy-1-butenyl]-2,3,3a,8b-tetrahydro-2-hydroxy-, (1R,2R,3aS,8bS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L110 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1994:37801 CAPLUS
DOCUMENT NUMBER: 120:37801
TITLE: **Hair-growing** composition containing prostaglandin I2 derivatives
INVENTOR(S): Isogaya, Masafumi; Nishio, Shintaro
PATENT ASSIGNEE(S): Toray Industries, Inc., Japan
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

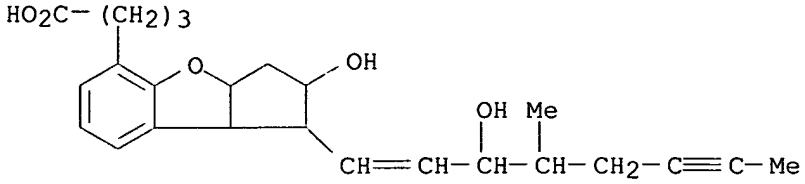
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 572014	A1	19931201	EP 1993-108599	19930527
EP 572014	B1	19961016		
R: DE, FR, GB, IT				
JP 05331025	A2	19931214	JP 1992-138187	19920529
JP 3102141	B2	20001023		
CA 2097278	AA	19931130	CA 1993-2097278	19930528
US 5508303	A	19960416	US 1993-68205	19930528

PRIORITY APPLN. INFO.: JP 1992-138187 A 19920529
OTHER SOURCE(S): MARPAT 120:37801

AB A compn. for stimulating hair growth comprises as an effective ingredient a 5,6,7-trinor-4,8-inter-m-phenylene prostaglandin I2 deriv., preferably beraprost. S.c. or oral administration of beraprost at 0.1mg/kg for 2wks to a rabbit whose hair on the back was shaved, significantly increased the length of newly grown hair when compared with the control group.

IT **88430-50-6**, Beraprost
RL: BIOL (Biological study)
(**hair growth** stimulation by)

RN 88430-50-6 CAPLUS
CN 1H-Cyclopenta[b]benzofuran-5-butanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-1-octen-6-ynyl)- (9CI) (CA INDEX NAME)



L110 ANSWER 3 OF 8 USPATFULL

ACCESSION NUMBER:	1998:162543 USPATFULL		
TITLE:	Preparation for percutaneous absorption		
INVENTOR(S):	Uekama, Kaneto, Kumamoto-ken, Japan Irie, Tetsumi, Kumamoto-ken, Japan Hara, Michio, Kanagawa, Japan Horiuchi, Yasuhide, Kanagawa, Japan		
PATENT ASSIGNEE(S):	Toray Industries, Inc., Tokyo, Japan (non-U.S. corporation)		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5854281		19981229
	WO 9615793		19960530
APPLICATION INFO.:	US 1996-676250		19961210 (8)
	WO 1995-JP2350		19951116
			19961210 PCT 371 date
			19961210 PCT 102(e) date
	NUMBER		DATE
PRIORITY INFORMATION:	JP 1994-283793		19941117
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Jordan, Kimberly		
LEGAL REPRESENTATIVE:	Birch, Stewart, Kolasch & Birch, LLP		
NUMBER OF CLAIMS:	8		
EXEMPLARY CLAIM:	1		
LINE COUNT:	455		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

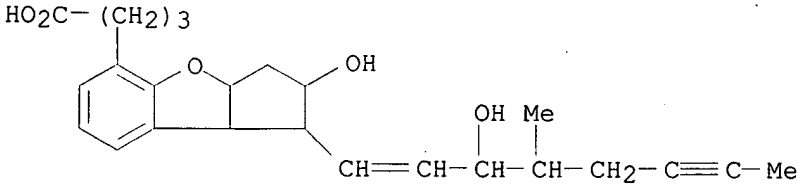
AB The present invention provides a preparation for percutaneous absorption comprising as an effective component a prostaglandin I.sub.2 derivative and a fatty acid or a derivative thereof, or a mixture of two or more of these, which has high percutaneous permeability of the PGI.sub.2 derivative. Particularly, the present invention provides a preparation for percutaneous absorption comprising 5,6,7-trinor-4,8-inter-m-phenylene PGI.sub.2 derivative and a C.sub.6 -C.sub.24 fatty acid, a salt thereof or an ester thereof, or a mixture of two or more of these, which has high percutaneous permeability of the PGI.sub.2 derivative. This preparation for percutaneous absorption suggests a possibility to last pharmacological effects and to reduce side effects. Thus, the preparation is expected to be used for therapy of various diseases, aiming at topical and systemic actions.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

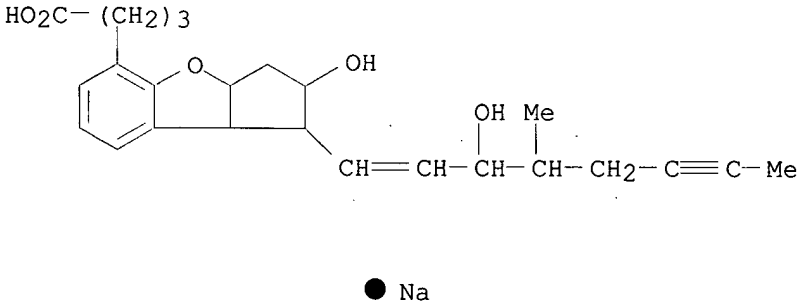
IT **88430-50-6**, Beraprost **88475-69-8**, Beraprost sodium
(percutaneously absorbable prepn. of prostaglandin I2 derivs.)

RN 88430-50-6 USPATFULL

CN 1H-Cyclopenta[b]benzofuran-5-butanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-1-octen-6-ynyl)- (9CI) (CA INDEX NAME)



RN 88475-69-8 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-butanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-1-octen-6-ynyl)-, monosodium salt (9CI) (CA INDEX NAME)



L110 ANSWER 4 OF 8 USPATFULL

ACCESSION NUMBER:	1998:159980 USPATFULL
TITLE:	Preparation for treating wounds or hemorrhoids
INVENTOR(S):	Okumura, Makoto, Kyoto, Japan Okuda, Toshiaki, Kyoto, Japan Nakamura, Tsutomu, Kyoto, Japan Yajima, Motoyuki, Kyoto, Japan
PATENT ASSIGNEE(S):	Kaken Pharmaceutical Co., Ltd., Japan (non-U.S. corporation) Toray Industries Inc., Japan (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5852050		19981222
APPLICATION INFO.:	US 1997-890443		19970709 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1994-365516, filed on 27 Dec 1994, now patented, Pat. No. US 5679707 which is a division of Ser. No. US 1993-129157, filed on 30 Nov 1993, now patented, Pat. No. US 5403867		

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1992-22808	19920207
	JP 1992-189867	19920624

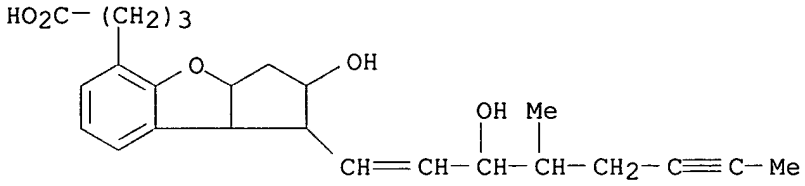
DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Gerstl, Robert
LEGAL REPRESENTATIVE:	Nixon & Vanderhye
NUMBER OF CLAIMS:	5
EXEMPLARY CLAIM:	1
LINE COUNT:	585

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

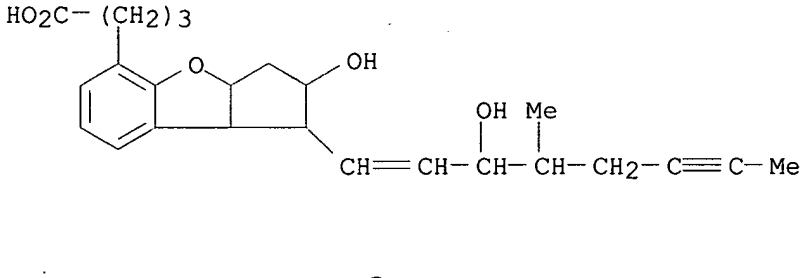
AB The present invention relates to a preparation, particularly a topical preparation, for the therapy of wounds or hemorrhoids, which contains,

as an active ingredient, at least one of prostaglandin I.sub.2, prostaglandin E.sub.1 and derivatives of these, particularly beraprost, a derivative of prostaglandin I.sub.2, or a salt thereof, and a method of the therapy of wounds or hemorrhoids, which comprises administering the above active ingredient.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **88430-50-6 88475-69-8**, Beraprost sodium salt
(pharmaceuticals contg., for hemorrhoid and wound treatment)
RN 88430-50-6 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-butanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-1-octen-6-ynyl)- (9CI) (CA INDEX NAME)



RN 88475-69-8 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-butanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-1-octen-6-ynyl)-, monosodium salt (9CI) (CA INDEX NAME)



● Na

L110 ANSWER 5 OF 8 USPATFULL

ACCESSION NUMBER:	97:96898 USPATFULL
TITLE:	Preparation for treating wounds or hemorrhoids
INVENTOR(S):	Okumura, Makoto, Kyoto, Japan Okuda, Toshiaki, Kyoto, Japan Nakamura, Tsutomu, Kyoto, Japan Yajima, Motoyuki, Kyoto, Japan
PATENT ASSIGNEE(S):	Kaken Pharmaceutical Co., Ltd., Japan (non-U.S. corporation) Toray Industries Inc., Japan (non-U.S. corporation)

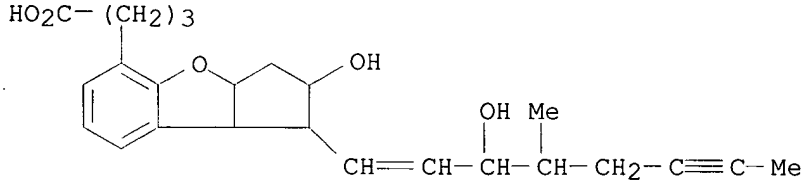
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5679707		19971021
APPLICATION INFO.:	US 1994-365516		19941227 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1993-129157, filed on 30 Nov 1993, now patented, Pat. No. US 5403867		

NUMBER	DATE

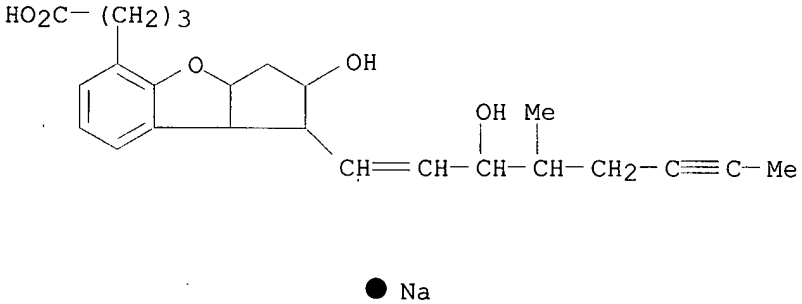
Searched by Barb O'Bryen, STIC 308-4291

PRIORITY INFORMATION: JP 1992-22808 19920207
JP 1992-189867 19920624
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Gerstl, Robert
LEGAL REPRESENTATIVE: Nixon & Vanderhye
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
LINE COUNT: 580
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to a preparation, particularly a topical preparation, for the therapy of wounds or hemorrhoids, which contains, as an active ingredient, at least one of prostaglandin I.sub.2, prostaglandin E.sub.1 and derivatives of these, particularly beraprost, a derivative of prostaglandin I.sub.2, or a salt thereof, and a method of the therapy of wounds or hemorrhoids, which comprises administering the above active ingredient.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **88430-50-6 88475-69-8**, Beraprost sodium salt
(pharmaceuticals contg., for hemorrhoid and wound treatment)
RN 88430-50-6 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-butanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-1-octen-6-ynyl)- (9CI) (CA INDEX NAME)



RN 88475-69-8 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-butanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-1-octen-6-ynyl)-, monosodium salt (9CI) (CA INDEX NAME)



L110 ANSWER 6 OF 8 USPATFULL
ACCESSION NUMBER: 96:31852 USPATFULL
TITLE: **Hair**-growing composition
INVENTOR(S): Isogaya, Masafumi, Kamakura, Japan
Nishio, Shintaro, Ebina, Japan
PATENT ASSIGNEE(S): Toray Industries, Inc., Tokyo, Japan (non-U.S. corporation)

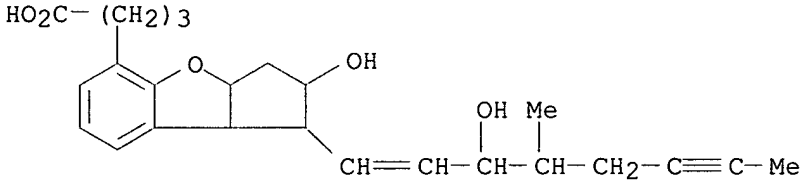
	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5508303		19960416	
APPLICATION INFO.:	US 1993-68205		19930528	(8)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1992-138187	19920529

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Raymond, Richard L.
ASSISTANT EXAMINER: Lambkin, Deborah
LEGAL REPRESENTATIVE: Birch, Stewart, Kolasch & Birch
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1
LINE COUNT: 277
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A composition for stimulating **hair** growth is described. The composition comprises as an effective ingredient a 5,6,7-trinor-4,8-inter-m-phenylene prostaglandin I.sub.2 derivative of the formula (I) or a pharmaceutically acceptable salt thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **88430-50-6**, Beraprost
(hair growth stimulation by)
RN 88430-50-6 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-butanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-1-octen-6-ynyl)- (9CI) (CA INDEX NAME)



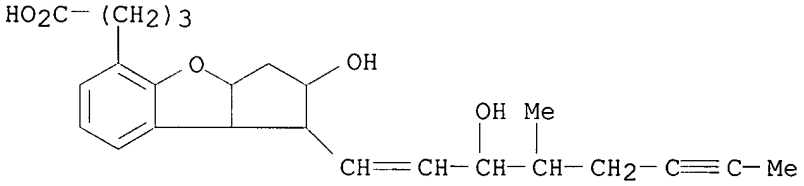
L110 ANSWER 7 OF 8 USPATFULL
ACCESSION NUMBER: 95:29668 USPATFULL
TITLE: Preparation for treating wounds or hemorrhoids
INVENTOR(S): Okumura, Makoto, Kyoto, Japan
Okuda, Toshiaki, Kyoto, Japan
Nakamura, Tsutomu, Kyoto, Japan
Yajima, Motoyuki, Kyoto, Japan
PATENT ASSIGNEE(S): Kaken Pharmaceutical Co., Ltd., Tokyo, Japan (non-U.S. corporation)
Toray Industries, Inc., Tokyo, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5403867		19950404	
	WO 9315739		19930819	
APPLICATION INFO.:	US 1993-129157		19931130	(8)
	WO 1993-JP151		19930205	
			19931130	PCT 371 date
			19931130	PCT 102(e) date

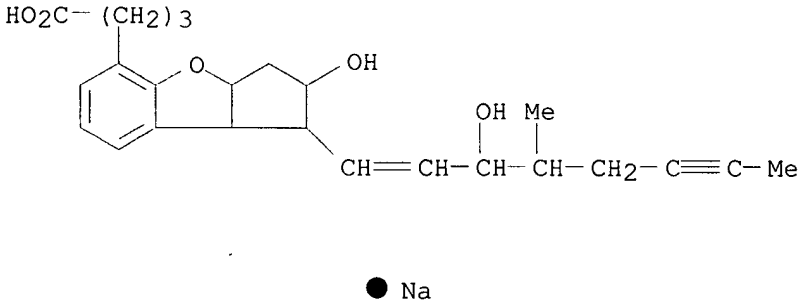
	NUMBER	DATE

PRIORITY INFORMATION: JP 1992-189867 19920624
JP 1992-22808 19920702
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Rose, Shep K.
LEGAL REPRESENTATIVE: Spensley Horn Jubas & Lubitz
NUMBER OF CLAIMS: 4
EXEMPLARY CLAIM: 1
LINE COUNT: 578
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to a preparation, particularly a topical preparation, for the therapy of wounds or hemorrhoids, which contains, as an active ingredient, at least one of prostaglandin I.sub.2, prostaglandin E.sub.1 and derivatives of these, particularly beraprost, a derivative of prostaglandin I.sub.2, or a salt thereof, and a method of the therapy of wounds or hemorrhoids, which comprises administering the above active ingredient.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **88430-50-6 88475-69-8**, Beraprost sodium salt
(pharmaceuticals contg., for hemorrhoid and wound treatment)
RN 88430-50-6 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-butanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-1-octen-6-ynyl)- (9CI) (CA INDEX NAME)



RN 88475-69-8 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-butanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-1-octen-6-ynyl)-, monosodium salt (9CI) (CA INDEX NAME)



L110 ANSWER 8 OF 8 DRUGU COPYRIGHT 2002 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1996-20398 DRUGU P E
TITLE: Effects of beraprost sodium and prostaglandin E1 on skin blood flow in diabetic rats and normal dogs.
AUTHOR: Ueno Y; Yamada N; Koike H; Nishio S

CORPORATE SOURCE: Toray
LOCATION: Kanagawa, Jap.
SOURCE: Gen.Pharmacol. (27, No. 2, 333-35, 1996) 2 Fig. 2 Tab. 23 Ref.
CODEN: GEPHDP ISSN: 0306-3623
AVAIL. OF DOC.: Toray Industries, Inc., Basic Research Laboratories, 1111 Tebiro Kamakura, Kanagawa 248, Japan.
LANGUAGE: English
DOCUMENT TYPE: Journal

ABSTRACT:

I.v. Na beraprost (BPS, Toray), but not i.v. PGE1 (Alprostadil, Ono), dose-dependently increased femoral skin blood flow in rats with i.v. streptozocin (STZ, Sigma-Chem.)-induced diabetes. In anesthetized normal dogs, BPS and PGE1 had comparable effects on MAP, HR and femoral skin blood flow, whereas PGE1 increased femoral arterial blood flow and BPS increased in-step skin blood flow. Results suggest that BPS may be useful in the treatment of lower limb circulatory failure in diabetic patients.

SECTION HEADING: P Pharmacology
E Endocrinology

CLASSIF. CODE: 48 Prostaglandins
58 Vasoactive

CONTROLLED TERM:
DIABETES *OC; CARBOHYDRATE-METAB.DISORDER *OC; PANCREOPATHY *OC; STREPTOZOCIN *RC; IN-VIVO *FT; RAT *FT; DOG *FT; I.V. *FT; DRUG-COMPARISON *FT; VASODILATOR *FT; FEMORAL *FT; SKIN *FT; BLOOD-FLOW *FT; BLOOD-PRESSURE *FT; HEART-RATE *FT; ARTERIAL *FT; INSTEP *FT; LAB.ANIMAL *FT; INJECTION *FT; HEMODYNAMICS *FT
[01] BERAPROST *PH; TORAY *FT; SODIUM *PH; TRK-100 *RN; SODIUM-SALT *FT; PROSTACYCLIN-AGONIST *FT; PROSTAGLANDIN *FT; PROSTAGLANDINS *FT; PROSTACYCLIN-AGONISTS *FT; ANTIAGGREGANTS *FT; PH *FT
CAS REGISTRY NO.: 88430-50-6
[02] PGE1 *PH; ONO *FT; PGE1 *RN; PROSTAGLANDIN *FT; PROSTAGLANDINS *FT; PH *FT
CAS REGISTRY NO.: 745-65-3
FIELD AVAIL.: AB; LA; CT
FILE SEGMENT: Literature

FILE 'HOME' ENTERED AT 16:03:30 ON 18 MAR 2002

RN 88430-50-6 USPATFULL
CN 1H-Cyclopenta[b]benzofuran-5-butanoic acid, 2,3,3a,8b-tetrahydro-2-hydroxy-1-(3-hydroxy-4-methyl-1-octen-6-ynyl)- (9CI) (CA INDEX NAME)